# BIOGRAPHICAL SKETCH Gabriel Greenberg

## EDUCATION

| INSTITUTION AND LOCATION | DEGREE | YEAR | FIELD OF STUDY |
|---|---|---|---|
| Quest University Canada | Bachelors | 2020 | Chemistry |

## PERSONAL STATEMENT

Having just graduated Quest University Canada in 2020 with a bachelor's degree focused on chemistry, I am in the begging phases of discovering my research interests and participating in the larger world outside of my undergraduate studies. My primary interests are in the fields of chemistry, education, environmental science, and programing. While I have only just begun to scratch the surface of these interests, I have participated in the construction of an undergraduate chemistry course, worked as an atmospheric research intern at the University of Colorado Boulder, spoken at an international conference, and am currently employed as a programmer and data analyst at Boulder AIR. In my current position, I have worked to provide analysis, figures, and reports on Boulder AIR's air monitoring data for presentations to city councils, non-profits, and the public at large. I have also worked on the development of websites and security systems for the company. Above all else, I hope to contribute to improving and informing actions around public health and the environment. My current work at Boulder AIR has enabled me to do just that by providing analysis to educate cities and the public on the safety of the air we all breathe.

## POSITIONS AND HONORS

Data analysis at Boulder Atmosphere Innovation Research (Boulder A.I.R) 2020-current.

Ripple Effect Award grant for being the leader of a local environmental sustainability club (2016).

President's list for academic achievement during the Fall Semester of 2019 and the Spring Semester of 2020.

Institute of Arctic and Alpine Research (INSTAAR) global VOC monitoring program intern (Summer 2019).

## CONTRIBUTIONS TO SCIENCE

Data analysis at Boulder Atmosphere Innovation Research (Boulder AIR) participating in primary research 2020-current.

Oral presenter at Geoconvention international conference in 2020.

Patriated in the development of an undergraduate forensic geochemistry course (taught at Quest University Canada).

## SELECTED PUBLICATIONS

1. Manuscript in Preparation: Detlev Helmig, **Gabriel Greenberg**, Jacques Hueber, Brendan Blanchard, Jashan Chopra, Susan Simoncic, Hélène Angot, Lisa Darby, John Ortega. Sources of Methane and Volatile Organic Compounds and Their Influence on Air Quality in Boulder, Colorado.

Black Parents United Foundation (BPUF)
Office Street Address: 1445 Dayton St, Aurora, CO 80010
Office Mailing Address: P.O Box 473901, Aurora, CO 80047
www.blackparentsunitedfoundation.org

Dear Cultivando Environmental Justice Programs:

I write on behalf of Black Parents United Foundation in support of Cultivando's proposal for the Environmental Protection Agency grant to fund the *Enhanced Air Quality Monitoring for Communities* to reduce health disparities in Commerce, City, CO. We strongly support this grant application and the focus on reducing health disparities by increasing delivery of evidence-based interventions by conducting ambient air monitoring of pollutants in the communities we live in stemming from pollution.

In the event this proposal is funded, we would expect our role in Cultivando's Enhanced Air Quality Monitoring project to include:

- Directly supporting Culvando by deploying mobile air labs into areas such as Aurora, CO.
- Promote outreach to families in the Aurora communities who have deemed interested to learn more about environmental health and environmental justice.
- Potentially expand the mobile air labs to other areas in the future should they receive funding.

Cultivando will take responsibility to lead this project with BPUF's partnership and support. We look forward to working with Cultivando in eliminating health disparities in our community and achieving health equity in our neighborhoods.

In community,

ShereVere "Shere" Walker
Black Parents United Foundation
Founder and Executive Director

# BIOGRAPHICAL SKETCH Jacques HUEBER

## EDUCATION

**Masters in Mechanical Engineering (2003)**, French Institute for Advanced Mechanics (IFMA), Clermont Ferrand, France

## POSITIONS

**Self-employed, JH Atmospheric Instrumentation Design, Boulder, CO, 2020-present**:

As a contractor for BOULDER A.I.R LLC, currently provided services include the development and construction, field deployment, and routine maintenance of atmospheric monitoring instrumentation. A particular specialization is the construction of Volatile Organic Compounds analytical systems, as well as deployment of these systems at several air monitoring stations in the Colorado Front Range. I strive to provide my sponsors and the public with high quality scientific data for gauging in air quality and directing air pollution regulations.

**Senior Professional Research Associate, University of Colorado Boulder, Institute for Alpine and Arctic Research (INSTAAR), 2003-2020:**

For 17 years in the INSTAAR Atmospheric Research Laboratory, I contributed to developing, building and deploying various instruments for atmospheric field research. Responsibilities also included operation, supervision, and technical support of science projects in the laboratory and in the field, working alongside undergraduate, graduate and postdoc students. In this setting, I took part in a great diversity of projects, collecting data in the Arctic, Antarctica, and USA. I actively participated in generating 13 years of Volatile Organic Compound (VOC) data in the NOAA/ESRL/GML CCGG Cooperative Air Sampling Network.

## SELECTED PEER-REVIEWED PUBLICATIONS

Helmig D., Guenter A., Hueber J., Daly R., Wang W., Park J.-H., Liikanen, A., and Paraplan A.P. (2021) Ozone reactivity measurement of biogenic volatile organic compound emissions. Atmos. Meas. Tech. Dis. https://doi.org/10.5194/amt-2021-354.

Rossabi S., Hueber J., Wang W., Milmoe P., and Helmig D. (2021) Spatial distribution of atmospheric oil and natural gas volatile organic compounds in the Northern Colorado Front Range. Elem. Sci. Anthro. 9, DOI: 10.1525/elementa.2019.00036.

Angot H., Davel C., Wiedinmyer C., Petron G., Chopra J., Hueber J., Blanchard B., Bourgeois I., Vimont I., Montzka S.A., Miller B.R., Elkins J.W., and Helmig D. (2021) Temporary pause in the growth of

atmospheric ethane and propane in 2015-2018. Atmos. Chem. Phys. 21, 15153-15170, https://doi.org/10.5194/acp-21-15153-2021.

Helmig D., Liptzin D., Hueber J., and Savarino J. (2020) Impact of exhaust emissions on chemical snowpack composition at Concordia Station, Antarctica. The Cryosphere 14, 199-209. DOI: 10.5194/tc-14-199-2020.

Helmig, D., Blanchard B., and Hueber, J. (2018) Contrasting behavior of slow and fast photoreactive gases during the August 21, 2017, solar eclipse. Elem. Sci. Anth. 6, 1-13, doi: 10.1525/elementa.322.

Rossabi S., Choudoir M., Helmig D., Hueber J., and Fierer N. (2018) Volatile organic compound emissions from soil following wetting events. J. Geophys. Res. Biogeosciences, 123, 1988-2001, doi:10.1029/2018JG004514.

Agnan Y., Douglas T. A., Helmig D., Hueber J., and Obrist D. (2018) Mercury in the Arctic tundra snowpack: temporal and spatial concentration patterns and trace gas exchanges. The Cryosphere 12, 1939-1956, doi:10.5194/tc-12-1939-2018.

Pollmann J., Helmig D., Liptzin D., Thompson C.R., Hueber J., Tans P.P., and Lelieveld J. (2016) Variability analyses, site characterization, and regional [OH] estimates using trace gas measurements from the NOAA Global Greenhouse Gas Reference Network. Elem. Sci. Anth. 4, 1-20, doi: 10.12952/journal.elementa.000128.

Helmig D., Rossabi S., Hueber J., Tans P., Montzka S.A., Masarie K., Thoning K., Plass-Duelmer C., Claude A., Carpenter L.J., Lewis A.C., Punjabi S., Reimann S., Vollmer M.K., Steinbrecher R., Hannigan J.W., Emmons L.K., Mahieu E., Franco B., Smale D., and Pozzer A. (2016) Reversal of global atmospheric ethane and propane trends largely due to US oil and natural gas production. Nature Geosci. 9, 490-495.

Oltmans S.J., Karion A., Schnell R.C., Pétron G., Sweeney C., Helmig D., Montzka S.A., Wolter S., Neff D., Miller B.R., Hueber J., Conley S., and Johnson B.J. (2016) O3, CH4, CO2, CO, NO2, and NMHC aircraft measurements in the Uinta Basin oil and gas region under low and high ozone conditions in winter 2012 and 2013. Elem. Sci. Anth. 4: 1-12, doi: 10.12952/journal.elementa.000132.

Helmig D., Stephens C.R., Evans J., Boylan P., Hueber J., and Park J.-H. (2014) Highly elevated atmospheric levels of volatile organic compounds in the Uintah Basin, Utah. Environ. Sci. Technol. 48, 4707-4715, doi:10.1021/es405046r.

Thompson C., Hueber J., and Helmig D. (2014) Influence of oil and gas emissions on ambient atmospheric non-methane hydrocarbons in residential areas of Northeastern Colorado. Elem. Sci. Anth. 3, 000035, 1-17. doi: 10.12952/journal.elementa.000035.

Helmig D., Stephens C.R., Caramore J., and Hueber J. (2013) Seasonal behavior of non-methane hydrocarbons in the firn air at Summit, Greenland. Atmos. Environ., 85, 234-246.

Bariteau, L., Helmig D., Fairall C.W., Hare J.E., Hueber J., and Lang E.K. (2010) Determination of oceanic ozone deposition by ship-borne eddy covariance flux measurements. Atmos. Measurement Techniques 3, 441-455.

## BIOGRAPHICAL SKETCH Katherine Potter

### SUMMARY

Atmospheric scientist with extensive background and knowledge in atmospheric gas measurements and instrumentation, both system construction and field deployment; Strong technical experience in hardware development, calibration, installation, and troubleshooting of custom multi-component instrumentation and data acquisition systems.

### EDUCATION

Massachusetts Institute of Technology, Cambridge, MA Ph.D. 2011
Climate Physics & Chemistry
Thesis: Nitrous oxide ($N_2O$) isotopic composition in the troposphere: instrumentation, observations at Mace Head, Ireland, and regional modeling (Advisors: Prof. Ron Prinn and Prof. Shuhei Ono)

College of William and Mary, Williamsburg, VA B.S. 2004
Chemistry/Environmental Science
Thesis (Highest Honors): Polybrominated diphenyl ether flame retardants in peregrine falcon eggs from coastal Virginia and Maryland (Advisor: Prof. Robert Hale)

### POSITIONS

Subcontractor with Boulder A.I.R. LLC, 2021 – present
Flight Scientist, Scientific Aviation, 2021
Applications Scientist, BrightSpec, 2019 – 2020
Station Chief Scientist & Instrumentation Scientist, Rwanda Climate Observatory Project, AGAGE/Government of Rwanda/MIT, 2011 – 2016
Urban Ecology Institute, Boston, MA, 2004 – 2005
Research Laboratory Technician, Virginia Institute of Marine Science, 2003 – 2004

### AWARDS

Marblar Technology Idea Competition, 2013 "Chirped Laser Dispersion Spectroscopy (CLaDS)"
NSF-MRI, 2010 "MRI-R2: Development and Deployment of Automated Continuous Wave Quantum Cascade Laser Instruments For On-Site Monitoring of the Four Isotopomers of Nitrous Oxide"
MISTI Hayashi Seed Fund, 2010 "MIT and TITech (Tokyo Institute of Technology) collaboration on isotopomer ratio monitoring of atmospheric $N_2O$"
Brita College EcoGrant Challenge, 2009 "Solar Air Conditioning System: Design and pilot installation at MIT"
Laboratory for Energy & the Environment, Martin Society for Sustainability Fellow, 2006 – 2011
Jule G. Charney Prize, MIT Department of Earth Atmospheric and Planetary Sciences, 2005
Presidential Fellowship, MIT, 2005
Hypercube Scholar Award, W&M Chemistry Department, 2004

**SELECTED PUBLICATIONS**

Andersson, A, EN Kirillova, S Decesari, L DeWitt, J Gasore, KE Potter, RG Prinn, M Rupakheti, JD Ndikubwimana, J Nkusi, B Safari (2020) Seasonal source variability of carbonaceous aerosols at the Rwanda Climate Observatory. Atmospheric Chemistry and Physics 20, 4561-4573.

DeWitt, HL, J Gasore, M Rupakheti, KE Potter, RG Prinn, JD Ndikubwimana, J Nkusi, B Safari (2019) Seasonal and diurnal variability in $O_3$, black carbon, and CO measured at the Rwanda Climate Observatory. Atmospheric Chemistry and Physics 19, 2063-2078.

Harris, E, D Nelson, W Olsewski, M Zahniser, KE Potter, B McManus, A Whitehill, RG Prinn, S Ono (2014) Development of a spectroscopic technique for continuous online monitoring of oxygen and site-specific nitrogen isotopic composition of atmospheric nitrous oxide. *Analytical Chemistry* 86(3), 1726–1734.

Potter, KE, S Ono, RG Prinn (2013) Fully automated, high-precision instrumentation for the isotopic analysis of tropospheric $N_2O$ using continuous flow isotope ratio mass spectrometry. *Rapid Communications in Mass Spectrometry* 27(15), 1723-1738.

Potter, KE (2011) Nitrous oxide ($N_2O$) isotopic composition in the troposphere: instrumentation, observations at Mace Head, Ireland, and regional modeling. *Center for Global Change Science Report No. 82*, Massachusetts Institute of Technology, http://cgcs.mit.edu/publications/

Potter, KE, BD Watts, M La Guardia, E Harvey, RC Hale (2009) Polybrominated diphenyl ether flame retardants in Chesapeake Bay region peregrine falcon eggs: urban/rural trends. *Environmental Toxicology and Chemistry* 28(5): 973-981.

# BIOGRAPHICAL SKETCH Lisa S. Darby

lisadarbywx@gmail.com

**Principal, LDWX LLC** - *Investigating the role of meteorology on air quality.*

March 2021 - present

Since March 2021, Lisa Darby has been analyzing Boulder A.I.R. data, quantifying quarterly trends in chemistry measurements and providing meteorological context for rapid changes in chemical measurements that can occur during meteorological events such as cold front passages, dust storms, and thunderstorms. Lisa also provides quick-turnaround analyses of rapid increases in chemical species associated with oil and gas emissions, including the role of winds in the local transport of these emissions. For further study of pollution transport, Lisa is currently implementing the American Meteorological Society (AMS) and the U.S. Environmental Protection Agency (EPA) Regulatory Model (AERMOD), a steady-state dispersion model that predicts plume transport from a point emission source, using data collected by Boulder A.I.R. in Commerce City. This work will allow Commerce City residents living near the Suncor refinery to see where Suncor emissions are being transported.

**Meteorologist, National Oceanic and Atmospheric Administration**

November 1988 – February 2021

Prior to starting LDWX LLC in March 2021, Lisa was a meteorologist in the Hydrometeorology Observations and Processes (HOP) research team in the NOAA Earth System Research Laboratory (ESRL)/Physical Sciences Laboratory (PSL) in Boulder, CO. Her research activities included evaluating numerical weather prediction precipitation forecasts in the western U.S., air quality research, and studying wind flows in complex terrain. Other work included co-managing the NOAA Hydrometeorology Testbed (jointly run by PSL and the NOAA Weather Prediction Center).

Prior to joining HOP, Lisa worked for six years in the National Integrated Drought Information System (NIDIS) program office, organizing stakeholder interactions leading to the establishment of the NIDIS Drought Early Warning and Information Systems (DEWS) in the Apalachicola-Chattahoochee-Flint River Basin and along the coast of North Carolina and South Carolina. During this time, Lisa also worked on an International Polar Year project called International Arctic Systems for Observing the Atmosphere (IASOA), promoting pan-Arctic research.

Before NIDIS, Lisa worked for 20 years as a meteorologist in the optical remote sensing research group at ESRL. In this capacity, she developed expertise in Doppler lidar studies of mesoscale wind systems and was involved in many projects that focused on coastal wind flows and their impact on air quality.

## EDUCATION:

2001, M.S., Atmospheric Science, Colorado State University, Fort Collins, CO.
1990, B.S., Meteorology, Metropolitan State University of Denver, Denver, CO.
982, B.M., Music Therapy, Florida State University, Tallahassee, FL.

## HONORS AND AWARDS:

- *OAR Outstanding Paper Award,* 2005. For the paper: T.B. Ryerson, et al., 2003: Effect of petrochemical industrial emissions of reactive alkenes and NOx on tropospheric ozone formation in Houston, Texas. *Journal of Geophysical Research*, **108**, doi:10.1029/ 2002JD003070.
- *NOAA Employee of the Year Award*, October, 2000. "For her outstanding research contributions, including exemplary leadership in field programs involving Doppler lidar data and for her critical contributions to the success of several high visibility experiments."
- *Outstanding Scientific Paper Award*, December, 1995. For the paper: Banta, R.M., *et al.*, 1993: Evolution of the Monterey Bay sea-breeze layer as observed by pulsed Doppler lidar. *J. Atmos. Sci.*, **50**, 3959-3982.

## SELECT AIR QUALITY PUBLICATIONS:


**Darby, L.S.**, C.J. Senff, R.J. Alvarez, R.M. Banta, L. Bianco, D. Helmig, and A.B. White, 2021. Spatial and temporal variability of ozone along the Colorado Front Range occurring over 2 days with contrasting wind flow. *Elem Sci Anth*, 9: 1. DOI: https://doi.org/10.1525/elementa.2020.00146.

Banta, R.M., C.J. Senff, D.D. Parrish, R.J. Alvarez, A.O. Langford, D.D. Parrish, M.K. Trainer, **L.S. Darby**, R.M. Hardesty, B. Lambeth, J.A. Neuman, W.M. Angevine, J. Nielsen-Gammon, S.P. Sandberg, and A.B. White, 2011: Dependence of daily peak O3 concentrations near Houston, Texas on environmental factors: Wind speed, temperature, and boundary-layer depth. *Atmos. Environ.*, doi:10.1016/j.atmosenv.2010.09.30.

Langford, A. O., C. J. Senff, R. M. Banta, R. M. Hardesty, R. J. Alvarez, II, S. P. Sandberg, and **L. S. Darby**, 2009: Regional and local background ozone in Houston during Texas Air Quality Study 2006, *J. Geophys. Res.*, 114, D00F12, doi:10.1029/2008JD011687

**Darby, L.S.**, S.A. McKeen, C.J. Senff, A.B. White, R.M. Banta, M.J. Post, W.A. Brewer, R.D. Marchbanks, R.J. Alvarez II, S.E. Peckham, H. Mao, and R. Talbot, 2007: Ozone differences between near-coastal and offshore sites in New England: Role of Meteorology. *J. Geophys. Res.*, 112, D16S91, doi:10.1029/2007JD008446.

White, A.B., **L.S. Darby**, C.J. Senff, C.W. King, R.M. Banta, J. Koermer, J.M. Wilczak, P.J. Neiman, W.M. Angevine, and R. Talbot, 2007: Comparing the impact of meteorological variability on surface ozone during the NEAQS (2002) and ICARTT (2004) field campaigns. *J. Geophys. Res.*, 112, D10S14, doi:10.1029/2006JK007590.

White, A.B., C.J. Senff, A.N. Keane, **L.S. Darby**, I.V. Djalalova, D.C. Ruffieux, D.E. White, B.J. Williams, and A.H. Goldstein, 2006: A wind profiler trajectory tool for air quality transport applications. *J. Geophys. Res.*, 111, D23S23, doi:10.1029/2006JD007475.

**Darby, L.S.**, 2005: Cluster analysis of surface winds in Houston, Texas and the impact of wind patterns on ozone. *J. Appl. Meteor.*, 44, 1788-1806.

Banta, R.M., C.J., Senff, J. Nielsen-Gammon, **L.S. Darby**, T.B. Ryerson, R.J. Alvarez, S.P. Sandberg, E.J. Williams, and M. Trainer, 2005: A bad air day in Houston. *Bull. Amer. Meteor. Soc.*, 86, 657-669.

T.B. Ryerson, et al., 2003: Effect of Petrochemical Industrial Emissions of Reactive Alkenes and NOx on Tropospheric Ozone Formation in Houston, Texas. *J. Geophys. Res.*, Vol. 108, NO. D8, 4249, doi:10.1029/ 2002JD003070,2003.

# BIOGRAPHICAL SKETCH Ryan Woodfin Daly

## EDUCATION

| INSTITUTION AND LOCATION | DEGREE | YEAR CONFERRED | FIELD OF STUDY |
|---|---|---|---|
| University of Colorado, Boulder | MS | 2010 | Mechanical Engineering, applied to atmospheric sciences |
| University of Colorado, Boulder | BS | 2007 | Mechanical Engineering |

## PERSONAL STATEMENT

My research interests center on land-atmosphere exchange of gases and particles over urban, natural and agricultural landscapes. I have specialized in the development and deployment of custom analytical measurement techniques for the quantification of challenging chemical species in the real world environment. I joined Boulder AIR in the fall of 2021, where I manages air quality monitoring stations that assess the influence of oil and natural gas development on air quality. Before joining Boulder AIR, I served a 10-year career with the US EPA in the Office of Research and Development (ORD) researching the land-atmosphere exchange of volatile organic compounds (VOC) and reactive nitrogen ($N_r$) from a variety of ecosystems including natural forests, agriculture, and aquatic sources. I led the development of a novel low-cost flux sampling system for the measurement of $N_r$ dry deposition called the COTAG (Conditional Time Averaged Gradient sampling system). The COTAG is expected to be deployed nationally to improve spatial and seasonal monitoring of $N_r$ dry deposition in North America.

## POSITIONS AND HONORS

Research Engineer, Boulder A.I.R. LLC, 2021-current.
Physical Scientist, U.S. EPA Office of Research and Development, 2017-2021.
Engineering Technician, U.S. EPA Office of Research and Development, 2011-2017.
Research Assistant, INSTAAR, University of Colorado, Boulder, 2006-2011.

Awards:

| | | |
|---|---|---|
| 2020 EPA ORD Honor Award – deposition. | Bronze Medal | Advancing the science of reactive nitrogen |
| 2017 EPA ORD Honor Award – | Bronze Metal | COWEETA Flux Tower Collaboration Team |

## CONTRIBUTIONS TO SCIENCE

Development of a novel sampling instrument named the COTAG (Conditional Time Averaged Gradient sampling system), a low-cost flux sampling platform for the measurement of reactive gases and aerosols.

## SELECTED PUBLICATIONS

Guo X., Pan D., Daly R., Chen S., Walker J., Tao L., McSpiritt J., and Zondlo M. Spatial heterogeneity of ammonia fluxes in a deciduous forest and adjacent grassland. (In preparation)

Walker J., Chen X., Wu Z., Schwede D., Daly R., Djurkovic A., Oishi C., Edgerton E., Bash J., Knoepp J., Puchalski M., Iiames J., and Miniat C.. Atmospheric Deposition of Reactive Nitrogen to a Deciduous

Forest in the Southern Appalachian Mountains. (In preparation)

Walker J., Beachley G., Helen A., Baron J., Bash J., Baumgardner R., Bell M., Benedict K., Chen X., Clow D., Cole A., Coughlin J., Cruz K., Daly R., Decina S., Elliott E., Fenn M., Ganzeveld L., Gebhart K., Isil S., Kerschner B., Larson B., Lavery T., Macy T., Mast A., Mishoe K., Morris K., Padgett P., Pouyat R., Puchalski M., Pye H., Rea A., Rhodes M., Rogers C., Saylor R., Schichtel B., Schwede D., Sexstone G., Sive B., Sosa R., Templar P., Thompson T., Tong D., Wetherbee G., Whitlow T., Wu Z., Yu Z., and Leiming Z. (2019) Toward the improvement of total nitrogen deposition budgets in the United States. Science of the Total Environment, 691:1328-1352. DOI:10.1016/j.scitotenv.2019.07.058.

Walker J., Beachley G., Helen A., Baron J., Bash J., Baumgardner R., Bell M., Benedict K., Chen X., Clow D., Cole A., Coughlin J., Cruz K., Daly R., Decina S., Elliott E., Fenn M., Ganzeveld L., Gebhart K., Isil S., Kerschner B., Larson B., Lavery T., Macy T., Mast A., Mishoe K., Morris K., Padgett P., Pouyat R., Puchalski M., Pye H., Rea A., Rhodes M., Rogers C., Saylor R., Schichtel B., Schwede D., Sexstone G., Sive B., Sosa R., Templar P., Thompson T., Tong D., Wetherbee G., Whitlow T., Wu Z., Yu Z., and Zhang L. (2018) Science needs for continued development of total nitrogen deposition budgets in the United States.

Geron C., Daly R., Arnts R., Guenther A., and Mowry F. (2016) Canopy level emission of 2-methyl-3-buten-2-ol, monoterpenes, and sesquiterpenes from an experimental Pinus taeda plantation. Science of the Total Environment, 565: 730-741. DOI: 10.1016/j.scitotenv.2016.05.034.

Geron C., Daly R., Harley P., Rasmussen R., Seco R., Guenther A., Karl T., and Gu L. (2016) Large drought-induced variations in oak leaf volatile organic compound emissions during PINOT NOIR 2012. Chemosphere: 146, 8-21. DOI:10.1016/j.chemosphere.2015.11.086.

Helmig D., Daly R., Milford J., and Guenther A. (2013) Seasonal trends of biogenic terpene emissions. Chemosphere, 93(1): 35-46. DOI: 10.1016/j.chemosphere.2013.04.058.

Kim S., Karl T., Helmig D., Daly R., Rasmussen R., and Guenther A. (2009) Measurement of atmospheric sesquiterpenes by proton transfer reaction-mass spectrometry (PTR-MS). Atmospheric Measurement Techniques, 2: 99-112. DOI: 10.5194/amt-2-99-2009.

Ortega J., Helmig D., Daly R., Tanner D., Guenther A., and Herrick J. (2008) Approaches for quantifying reactive and low volatility biogenic organic compound emissions by vegetation enclosure techniques – Part B: Applications for quantifying monoterpene and sesquiterpene emission rates. Chemosphere 72: 365-380. DOI: 10.1016/j.chemosphere.2008.02.054.

COLORADO
Department of Public
Health & Environment

Dedicated to protecting and improving the health and environment of the people of Colorado

21 March 2022

Aracely Navarro
Director of Environmental Justice
Cultivando

Dear Ms. Navarro,

The Colorado Department of Health and Environment (CDPHE) is excited to submit this letter in support of Cultivando on its application for the US Environmental Protection Agency's "Enhanced Air Quality Monitoring for Communities" grant. Cultivando is an essential community connector that brings air monitoring experience and expertise to disproportionately impacted communities living in the industrial area of Commerce City. Building on their deep connections with community members and trust earned over the years of grassroots organizing and raising community voice, Cultivando's proposal extends air monitoring projects beyond the one-year of current funding, with a view to create environmental health equity for the Latinx community in Commerce City. CDPHE recently adopted air quality data collection and improvements as one of its Wildly Important Goals, major objectives that will benefit all Coloradans and especially the most vulnerable members of our state.

Commerce City is the area of Colorado that raises the greatest environmental justice concerns in the state due to the cumulative impacts of multiple stationary and mobile sources of air pollution, a history of both surface water quality and drinking water quality challenges, and the presence of and proximity to multiple priority remediation sites. Commerce City, and especially the southern parts of Commerce City where Cultivando focuses its work, is a predominantly Latinx community, with a large proportion of the population being monolingual Spanish speakers. Fifteen out of 16 census block groups in southern Commerce City score above the 90$^{th}$ percentile in CDPHE's interactive environmental justice mapping tool, the Climate Equity Data Viewer.

CDPHE greatly appreciates Cultivando's leadership and community voice in Colorado's efforts to strengthen environmental justice and to reduce environmental harms in disproportionately impacted communities. In the last few months alone, CDPHE has appreciated the opportunity to partner with Cultivando to convene two Spanish language community workshops on drinking water quality and fenceline monitoring of air toxics. Thanks to Cultivando's trusted community relationships and strong facilitation, CDPHE had the opportunity to share information and dialogue with communities in a more meaningful manner. Cultivando's proposal for funds to expand community-driven air monitoring is immediately impactful for the Commerce City community. It also stands to serve as a model across Colorado of how local community organizations can bridge community vision and much-needed air monitoring technology and data.

Cultivando's existing community-based air monitoring program was funded for a one-year period by a Supplemental Environmental Project that resulted from an enforcement penalty levied by CDPHE against the Suncor refinery in Commerce City. It stands out as a model of an extremely successful, community-based project to monitor air quality and report health information back to community members in an

understandable way. CDPHE views Cultivando's use of the Supplemental Environmental Project funding as a significant environmental justice success story-one that we hope to replicate in other communities across Colorado over time. However, without identifying a continuing source of funding for that work, CDPHE is aware that Cultivando may not be able to continue its successful program over time, which is why this source of funding is so critical.

CDPHE's mission is to protect public health. CDPHE strongly supports Cultivando's proposal and Cultivando's essential role in expanding their air monitoring capacity in response to community concerns and priorities. This proposed community-driven air monitoring will not only help reduce emissions in the disproportionately impacted community of Commerce City, but will also have significant implications on long term health equity related to environmental determinants of health. CDPHE looks forward to our ongoing collaboration with Cultivando, and welcomes the opportunity to partner with Cultivando in their continued crucial community and air monitoring work.

We hope that your proposal is funded. Please feel free to contact me with any questions. I can be reached at (720) 597-2904 or michael.ogletree@state.co.us.

Sincerely,

Michael Ogletree
Director
Air Pollution Control Division

*Cultivando EPA RFA*

*Section 2 – Community Involvement*

**C. Community-Based Organization Set-Aside**

Cultivando is a leadership, advocacy, and capacity building organization that works in collaboration with community leaders and organizational partners. Cultivando's work is built on a foundation of the organizational values of community-led work, social justice, and collaborative leadership -- we hire and train members of the Latino community to bring leadership and advocacy solutions. We train and support Latino community leaders to understand how local systems work in order to make positive change for their children and their community through Cultivando's Promotora model. Promotoras are skilled and respected Latinx community members who work within their community and are from the community that they serve. The model is built on the understanding that we can create better plans and policies if the impacted community is civically engaged and meaningfully part of the process.

Our staff share lived experiences, values, and challenges faced by the communities we serve. Our team are all people of color, Latinx and primarily women. Our Executive Director is an Indigenous woman, who has been working in the nonprofit sector for 28 years and is also a consultant to many nonprofit organizations, foundations, and institutions across Colorado and nationally. She is also a recognized community leader and has earned several awards and honors including the Soul of Leadership (SOL) Award from the Latino Community Foundation of Colorado and is currently a Bonfils Stanton Foundation Livingston Fellow. Our Director of Environmental Justice Programs is also a woman of color who holds a master's degree in Public Health, with a focus on Environmental Health and is very knowledgeable and passionate about environmental health and environmental justice. Our Promotoras are well-respected and trusted community leaders who easily deliver needed information and resources to our community. Cultivando is a well-established and respected organization. We are often invited to spaces where decisions are made which can impact the Latino community and many nonprofit organizations and government agencies seek us out for collaborations.

Culitvando has been able to provide many different social services to the community, ranging in diversity and topics. Twice a month we host self-care and emotional health classes for the community to engage and connect with one another. Our workshops have allowed us to continue supporting our community through virtual culturally relevant, peer-led activities and mental health topics facilitated by our skilled Promotoras and guest speakers. Our curriculum, Cultivando Mi Voz/Cultivando Mi Liderazgo, is focused on building and supporting leadership skills, power building, and community advocacy through culturally relevant trainings for the Latino community in Colorado. This year, we plan to offer our curriculum to the community and focus on our in-house programming for our families and children. Another component to our work is our early childhood development trainings in partnership with our Spanish-speaking Family Friend and Neighbor (FFN) in-home childcare providers. Our training and programming offer advocacy and support to these providers whose work is essential in our community. We work to build a supportive network, to increase capacity and understanding around Healthy Eating Active Living (HEAL) and reducing educational disparities for low-income children, and to advocate at a local and state-level for systemic acknowledgement of their contributions to our communities. HEAL efforts have led us to support Commerce City recreation centers to provide culturally-relevant and accessible exercise and nutrition classes that support the health and well-being of Latinx community members. Most recently, we are focusing on our environmental justice education and organizing efforts

focusing on addressing the harm caused to our communities by local oil and gas operations. We have offered various educational workshops around air quality and the connection to health.

We have been a trusted community organization in Commerce City for decades. Community members often come to us and ask for resources, we pride ourselves in ensuring our work is community led and informed.

OMB Number: 2030-0020
Expiration Date: 06/30/2024

# Preaward Compliance Review Report for All Applicants and Recipients Requesting EPA Financial Assistance

Note: Read Instructions before completing form.

**I. A. Applicant/Recipient (Name, Address, City, State, Zip Code)**

Name: Cultivando

Address: 7190 Colorado Blvd

City: Commerce City

State: CO: Colorado Zip Code: 80022

**B. DUNS No.** 962038803

**II. Is the applicant currently receiving EPA Assistance?** ☐ Yes ☒ No

**III. List all civil rights lawsuits and administrative complaints pending against the applicant/recipient that allege discrimination based on race, color, national origin, sex, age, or disability. (Do not include employment complaints not covered by 40 C.F.R. Parts 5 and 7.)**

N/A

**IV. List all civil rights lawsuits and administrative complaints decided against the applicant/recipient within the last year that allege discrimination based on race, color, national origin, sex, age, or disability and enclose a copy of all decisions. Please describe all corrective actions taken. (Do not include employment complaints not covered by 40 C.F.R. Parts 5 and 7.)**

N/A

**V. List all civil rights compliance reviews of the applicant/recipient conducted by any agency within the last two years and enclose a copy of the review and any decisions, orders, or agreements based on the review. Please describe any corrective action taken. (40 C.F.R. § 7.80(c)(3))**

N/A

**VI. Is the applicant requesting EPA assistance for new construction? If no, proceed to VII; if yes, answer (a) and/or (b) below.**

☐ Yes ☒ No

**a. If the grant is for new construction, will all new facilities or alterations to existing facilities be designed and constructed to be readily accessible to and usable by persons with disabilities? If yes, proceed to VII; if no, proceed to VI(b).**

☐ Yes ☐ No

**b. If the grant is for new construction and the new facilities or alterations to existing facilities will not be readily accessible to and usable by persons with disabilities, explain how a regulatory exception (40 C.F.R. 7.70) applies.**

| | | |
|---|---|---|
| **VII. Does the applicant/recipient provide initial and continuing notice that it does not discriminate on the basis of race, color, national origin, sex, age, or disability in its program or activities? (40 C.F.R 5.140 and 7.95)** | ☒ Yes | ☐ No |
| **a. Do the methods of notice accommodate those with impaired vision or hearing?** | ☒ Yes | ☐ No |
| **b. Is the notice posted in a prominent place in the applicant's offices or facilities or, for education programs and activities, in appropriate periodicals and other written communications?** | ☒ Yes | ☐ No |
| **c. Does the notice identify a designated civil rights coordinator?** | ☒ Yes | ☐ No |
| **VIII. Does the applicant/recipient maintain demographic data on the race, color, national origin, sex, age, or handicap of the population it serves? (40 C.F.R. 7.85(a))** | ☒ Yes | ☐ No |
| **IX. Does the applicant/recipient have a policy/procedure for providing access to services for persons with limited English proficiency? (40 C.F.R. Part 7, E.O. 13166)** | ☒ Yes | ☐ No |

**X. If the applicant is an education program or activity, or has 15 or more employees, has it designated an employee to coordinate its compliance with 40 C.F.R. Parts 5 and 7? Provide the name, title, position, mailing address, e-mail address, fax number, and telephone number of the designated coordinator.**

N/A

**XI. If the applicant is an education program or activity, or has 15 or more employees, has it adopted grievance procedures that assure the prompt and fair resolution of complaints that allege a violation of 40 C.F.R. Parts 5 and 7? Provide a legal citation or Internet Address for, or a copy of, the procedures.**

N/A

**For the Applicant/Recipient**

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law. I assure that I will fully comply with all applicable civil rights statutes and EPA regulations.

| A. Signature of Authorized Official | B. Title of Authorized Official | C. Date |
|---|---|---|
| Aracely Navarro | Director of Environmental Justice Programs | 03/25/2022 |

**For the U.S. Environmental Protection Agency**

I have reviewed the information provided by the applicant/recipient and hereby certify that the applicant/recipient has submitted all preaward compliance information required by 40 C.F.R. Parts 5 and 7; that based on the information submitted, this application satisfies the preaward provisions of 40 C.F.R. Parts 5 and 7; and that the applicant has given assurance that it will fully comply with all applicable civil rights statures and EPA regulations.

| A. *Signature of Authorized EPA Official | B. Title of Authorized Official | C. Date |
|---|---|---|
| | | |

*** See Instructions**

Instructions for EPA FORM 4700-4 (Rev. 06/2014)

General. Recipients of Federal financial assistance from the U.S. Environmental Protection Agency must comply with the following statutes and regulations.
Title VI of the Civil Rights Acts of 1964 provides that no person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. The Act goes on to explain that the statute shall not be construed to authorize action with respect to any employment practice of any employer, employment agency, or labor organization (except where the primary objective of the Federal financial assistance is to provide employment). Section 13 of the 1972 Amendments to the Federal Water Pollution Control Act provides that no person in the United States shall on the ground of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under the Federal Water Pollution Control Act, as amended. Employment discrimination on the basis of sex is prohibited in all such programs or activities. Section 504 of the Rehabilitation Act of 1973 provides that no otherwise qualified individual with a disability in the United States shall solely by reason of disability be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. Employment discrimination on the basis of disability is prohibited in all such programs or activities. The Age Discrimination Act of 1975 provides that no person on the basis of age shall be excluded from participation under any program or activity receiving Federal financial assistance. Employment discrimination is not covered. Age discrimination in employment is prohibited by the Age Discrimination in Employment Act administered by the Equal Employment Opportunity Commission. Title IX of the Education Amendments of 1972 provides that no person in the United States on the basis of sex shall be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance. Employment discrimination on the basis of sex is prohibited in all such education programs or activities. Note: an education program or activity is not limited to only those conducted by a formal institution. 40 C.F.R. Part 5 implements Title IX of the Education Amendments of 1972. 40 C.F.R. Part 7 implements Title VI of the Civil Rights Act of 1964, Section 13 of the 1972 Amendments to the Federal Water Pollution Control Act, and Section 504 of The Rehabilitation Act of 1973. The Executive Order 13166 (E.O. 13166) entitled; "Improving Access to Services for Persons with Limited English Proficiency" requires Federal agencies work to ensure that recipients of Federal financial assistance provide meaningful access to their LEP applicants and beneficiaries.

Items "Applicant" means any entity that files an application or unsolicited proposal or otherwise requests EPA assistance. 40 C.F.R. §§ 5.105, 7.25. "Recipient" means any entity, other than applicant, which will actually receive EPA assistance. 40 C.F.R. §§ 5.105, 7.25. "Civil rights lawsuits and administrative complaints" means any lawsuit or administrative complaint alleging discrimination on the basis of race, color, national origin, sex, age, or disability pending or decided against the applicant and/or entity which actually benefits from the grant, but excluding employment complaints not covered by 40 C.F.R. Parts 5 and 7. For example, if a city is the named applicant but the grant will actually benefit the Department of Sewage, civil rights lawsuits involving both the city and the Department of Sewage should be listed. "Civil rights compliance review" means any review assessing the applicant's and/or recipient's compliance with laws prohibiting discrimination on the basis of race, color, national origin, sex, age, or disability. Submit this form with the original and required copies of applications, requests for extensions, requests for increase of funds, etc. Updates of information are all that are required after the initial application submission. If any item is not relevant to the project for which assistance is requested, write "NA" for "Not Applicable." In the event applicant is uncertain about how to answer any questions, EPA program officials should be contacted for clarification. * Note: Signature appears in the Approval Section of the EPA Comprehensive Administrative Review For Grants/Cooperative Agreements & Continuation/Supplemental Awards form.

# EPA KEY CONTACTS FORM

OMB Number: 2030-0020
Expiration Date: 06/30/2024

**Authorized Representative:** *Original awards and amendments will be sent to this individual for review and acceptance, unless otherwise indicated.*

**Name:** Prefix: Mrs. First Name: Olga Middle Name:
Last Name: Gonzalez Suffix:

**Title:** Executive Director

**Complete Address:**

Street1: 7190 Colorado Blvd
Street2:
City: Commerce City State: CO: Colorado
Zip / Postal Code: 80022 Country: USA: UNITED STATES

**Phone Number:** 3036695532 **Fax Number:**

**E-mail Address:** Olga@cultivando.org

**Payee:** *Individual authorized to accept payments.*

**Name:** Prefix: Mrs. First Name: Rocio Middle Name:
Last Name: Franco Suffix:

**Title:** Associate Director

**Complete Address:**

Street1: 7190 Colorado Blvd
Street2:
City: Commerce City State: CO: Colorado
Zip / Postal Code: 80022 Country: USA: UNITED STATES

**Phone Number:** 720-234-4561 **Fax Number:**

**E-mail Address:** rocio@cultivando.org

**Administrative Contact:** *Individual from Sponsored Programs Office to contact concerning administrative matters (i.e., indirect cost rate computation, rebudgeting requests etc).*

**Name:** Prefix: Ms. First Name: Aracely Middle Name:
Last Name: Navarro Suffix:

**Title:** Director of Environmental Justice Programs

**Complete Address:**

Street1: 7190 Colorado Blvd
Street2:
City: Commerce City State: CO: Colorado
Zip / Postal Code: 80022 Country: USA: UNITED STATES

**Phone Number:** 7204347830 **Fax Number:**

**E-mail Address:** aracely@cultivando.org

EPA Form 5700-54 (Rev 4-02)

# EPA KEY CONTACTS FORM

**Project Manager:** *Individual responsible for the technical completion of the proposed work.*

**Name:** Prefix: Ms. First Name: Aracely Middle Name:

Last Name: Navarro Suffix:

**Title:**

**Complete Address:**

Street1: 7190 Colorado Blvd

Street2:

City: Commerce City State: CO: Colorado

Zip / Postal Code: 80022 Country: USA: UNITED STATES

**Phone Number:** 7204347830 **Fax Number:**

**E-mail Address:** aracely@cultivando.org

EPA Form 5700-54 (Rev 4-02)

## Other Attachment File(s)

*** Mandatory Other Attachment Filename:** 1236-Quality Assurance Statement.pdf

Add Mandatory Other Attachment | Delete Mandatory Other Attachment | View Mandatory Other Attachment

To add more "Other Attachment" attachments, please use the attachment buttons below.

Add Optional Other Attachment | Delete Optional Other Attachment | View Optional Other Attachment

# BUDGET INFORMATION - Non-Construction Programs

OMB Number: 4040-0006
Expiration Date: 02/28/2022

## SECTION A - BUDGET SUMMARY

| Grant Program Function or Activity (a) | Catalog of Federal Domestic Assistance Number (b) | Estimated Unobligated Funds | | New or Revised Budget | | |
|---|---|---|---|---|---|---|
| | | Federal (c) | Non-Federal (d) | Federal (e) | Non-Federal (f) | Total (g) |
| 1. Community-Based Air Monitoring | 66.034 | $ | $ | $ 500,000.00 | $ | $ 500,000.00 |
| 2. | | | | | | |
| 3. | | | | | | |
| 4. | | | | | | |
| 5. Totals | | $ | $ | $ 500,000.00 | $ | $ 500,000.00 |

Standard Form 424A (Rev. 7- 97)
Prescribed by OMB (Circular A -102) Page 1

## SECTION B - BUDGET CATEGORIES

| 6. Object Class Categories | GRANT PROGRAM, FUNCTION OR ACTIVITY (1) | (2) | (3) | (4) | Total (5) |
|---|---|---|---|---|---|
| | Community-Based Air Monitoring | | | | |
| a. Personnel | $ 34,764.00 | $ | $ | $ | $ 34,764.00 |
| b. Fringe Benefits | | | | | |
| c. Travel | | | | | |
| d. Equipment | | | | | |
| e. Supplies | | | | | |
| f. Contractual | 465,236.00 | | | | 465,236.00 |
| g. Construction | | | | | |
| h. Other | | | | | |
| i. Total Direct Charges (sum of 6a-6h) | 500,000.00 | | | | $ 500,000.00 |
| j. Indirect Charges | | | | | $ |
| k. TOTALS (sum of 6i and 6j) | $ 500,000.00 | $ | $ | $ | $ 500,000.00 |
| | | | | | |
| 7. Program Income | $ | $ | $ | $ | $ |

**Authorized for Local Reproduction**

Standard Form 424A (Rev. 7- 97)
Prescribed by OMB (Circular A -102) Page 1A

## SECTION C - NON-FEDERAL RESOURCES

| (a) Grant Program | (b) Applicant | (c) State | (d) Other Sources | (e)TOTALS |
|---|---|---|---|---|
| 8. Community-Based Air Monitoring, for community facing activities | $ 0.00 | $ 250,000.00 | $ 200,000.00 | $ 450,000.00 |
| 9. | | | | |
| 10. | | | | |
| 11. | | | | |
| 12. TOTAL (sum of lines 8-11) | $ 0.00 | $ 250,000.00 | $ 200,000.00 | $ 450,000.00 |

## SECTION D - FORECASTED CASH NEEDS

| | Total for 1st Year | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---|---|---|---|---|---|
| 13. Federal | $ 500,000.00 | $ 250,000.00 | $ | $ 250,000.00 | $ |
| 14. Non-Federal | $ | | | | |
| 15. TOTAL (sum of lines 13 and 14) | $ 500,000.00 | $ 250,000.00 | $ | $ 250,000.00 | $ |

## SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT

| (a) Grant Program | FUTURE FUNDING PERIODS (YEARS) (b)First | (c) Second | (d) Third | (e) Fourth |
|---|---|---|---|---|
| 16. Community-Based Air Monitoring | $ 250,000.00 | $ 250,000.00 | $ | $ |
| 17. | | | | |
| 18. | | | | |
| 19. | | | | |
| 20. TOTAL (sum of lines 16 - 19) | $ 250,000.00 | $ 250,000.00 | $ | $ |

## SECTION F - OTHER BUDGET INFORMATION

21. Direct Charges:

22. Indirect Charges:

23. Remarks: The contractual budget break down can be found in the narrative. The non-federal resources in section C are small grants that we have received to conduct community engagement activities.

## Project Narrative File(s)

*** Mandatory Project Narrative File Filename:** 1235-FINAL_Cultivando_Narrative_03_25_22.pdf

Add Mandatory Project Narrative File | Delete Mandatory Project Narrative File | View Mandatory Project Narrative File

To add more Project Narrative File attachments, please use the attachment buttons below.

Add Optional Project Narrative File | Delete Optional Project Narrative File | View Optional Project Narrative File

OMB Number: 4040-0004
Expiration Date: 12/31/2022

## Application for Federal Assistance SF-424

* 1. Type of Submission:
- [ ] Preapplication
- [x] Application
- [ ] Changed/Corrected Application

* 2. Type of Application:
- [x] New
- [ ] Continuation
- [ ] Revision

* If Revision, select appropriate letter(s):

* Other (Specify):

* 3. Date Received: 03/25/2022

4. Applicant Identifier: Cultivando AIRE EPA RFA

5a. Federal Entity Identifier: LC73NSVC6NP6

5b. Federal Award Identifier:

**State Use Only:**

6. Date Received by State:

7. State Application Identifier: CO

**8. APPLICANT INFORMATION:**

* a. Legal Name: Cultivando

* b. Employer/Taxpayer Identification Number (EIN/TIN): 84-1499624

* c. Organizational DUNS: 9620388030000

**d. Address:**

* Street1: 7190 Colorado Blvd
Street2:
* City: Commerce City
County/Parish: Adams County
* State: CO: Colorado
Province:
* Country: USA: UNITED STATES
* Zip / Postal Code: 80022-0001

**e. Organizational Unit:**

Department Name:

Division Name:

**f. Name and contact information of person to be contacted on matters involving this application:**

Prefix:
* First Name: Aracely
Middle Name:
* Last Name: Navarro
Suffix:

Title: Director of Environmental Justice Programs

Organizational Affiliation: Cultivando

* Telephone Number: 7204347830
Fax Number:

* Email: aracely@cultivando.org

## Application for Federal Assistance SF-424

*** 9. Type of Applicant 1: Select Applicant Type:**

M: Nonprofit with 501C3 IRS Status (Other than Institution of Higher Education)

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

*** 10. Name of Federal Agency:**

Environmental Protection Agency

**11. Catalog of Federal Domestic Assistance Number:**

66.034

CFDA Title:

Surveys, Studies, Research, Investigations, Demonstrations, and Special Purpose Activities Relating to the Clean Air Act

*** 12. Funding Opportunity Number:**

EPA-OAR-OAQPS-22-01

* Title:

Enhanced Air Quality Monitoring for Communities

**13. Competition Identification Number:**

Title:

**14. Areas Affected by Project (Cities, Counties, States, etc.):**

1234-AREAS AFFECTED BY PROJECT.pdf | Add Attachment | Delete Attachment | View Attachment

*** 15. Descriptive Title of Applicant's Project:**

Air Quality Investigation and Research for Equity (AIRE)

Attach supporting documents as specified in agency instructions.

Add Attachments | Delete Attachments | View Attachments

## Application for Federal Assistance SF-424

**16. Congressional Districts Of:**

* a. Applicant: CO-008 * b. Program/Project: CO-008

Attach an additional list of Program/Project Congressional Districts if needed.

Add Attachment | Delete Attachment | View Attachment

**17. Proposed Project:**

* a. Start Date: 01/01/2023 * b. End Date: 12/31/2024

**18. Estimated Funding ($):**

| | |
|---|---|
| * a. Federal | 500,000.00 |
| * b. Applicant | 0.00 |
| * c. State | 250,000.00 |
| * d. Local | 0.00 |
| * e. Other | 200,000.00 |
| * f. Program Income | 0.00 |
| * g. TOTAL | 950,000.00 |

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

☐ a. This application was made available to the State under the Executive Order 12372 Process for review on .

☐ b. Program is subject to E.O. 12372 but has not been selected by the State for review.

☒ c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)**

☐ Yes ☒ No

If "Yes", provide explanation and attach

Add Attachment | Delete Attachment | View Attachment

**21. *By signing this application, I certify (1) to the statements contained in the list of certifications** and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

☒ ** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

**Authorized Representative:**

Prefix: * First Name: Aracely

Middle Name:

* Last Name: Navarro

Suffix:

* Title: Director of Environmental Justice Programs

* Telephone Number: 7204347830 Fax Number:

* Email: aracely@cultivando.org

* Signature of Authorized Representative: Aracely Navarro * Date Signed: 03/25/2022

CENTER FOR
HEALTH PROGRESS

Environmental Protection Agency
1200 Pennsylvania Ave, NW
Washington, DC 20460

March 25, 2022

To whom it may concern,

On behalf of Center for Health Progress, I am writing this letter of support regarding Cultivando's application to conduct ongoing air monitoring in Commerce City, Globeville, and Elyria-Swansea in the Metro Denver area.

With funding from Environmental Protection Agency, Cultivando will continue their critical air AIRE project to monitor pollutants to quantify and identify the air toxins that are present within and throughout the Commerce City, Globeville, and Elyria-Swansea neighborhoods. The quantification of these air toxics will be done in order to address issues of environmental racism and injustice that are present in these communities. This will be done by strategically placing multiple stationary air monitoring sites within the community, deploying a mobile air monitoring van throughout the community and utilizing low-cost monitors to engage community members in citizen science.

Center for Health Progress and Cultivando have a long standing partnership. Both organizations believe in the power of community members coming together to pursue social change to address and correct historical oppression. Cultivando's promatora model reflects their commitment to community-led work to ensure health equity is achieved in the communities they work.

Center for Health Progress is a proud partner and advocate for Cultivando because we are deeply aligned around our values and belief that communities can build the power to create structural change to realize racial and health equity. Thank you for your support and please feel free to contact me if you have any additional questions.

Sincerely,

Joe Sammen
Co-Executive Director

DIANA DEGETTE
1st District, Colorado

2111 Rayburn House Office Building
Washington, DC 20515
(202) 225-4431

DISTRICT OFFICE
600 Grant Street, Suite 202
Denver, CO 80203
(303) 844-4988

degette.house.gov

# Congress of the United States
## House of Representatives
Washington, DC 20515

COMMITTEE ON
ENERGY AND COMMERCE
Oversight and Investigations — Chair
Environment and Climate Change
Communications and Technology

COMMITTEE ON
NATURAL RESOURCES
National Parks, Forests, and Public Lands
Energy and Mineral Resources

March 21, 2022

Tim Roberts
Acting Team Leader
Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, DC 20590

RE: RFA#: EPA-OAR-OAQPS-22-01

Dear Mr. Roberts:

I am pleased to support Cultivando in their application for the Enhanced Air Quality Monitoring for Communities grant. If awarded, this grant will support their work improving environmental health and securing environmental justice for communities in the Denver region, particularly for the Latinx community in Commerce City.

The area Cultivando serves has a history of being subject to environmental degradation and of inadequate access to resources, representation, and data. Equipping Cultivando with enhanced capability to monitor air quality will help redress significant injustices in the area and secure future improvements in environmental and community health. Monitoring the quality of the air will not only support the Earth's ecosystem, but also the health and ecosystem of the community. This grant funding will reinforce Cultivando's advocacy for systems wide policy change around environmental health which will have significant implications on long term health equity in the region.

Thank you for your consideration of this grant application. I encourage you to give Cultivando's application every appropriate consideration. Should this application be approved for funding, please contact Joe Wood in my office at 303-968-6099 or Joe.Wood@mail.house.gov.

Sincerely,

Diana DeGette
Member of Congress

(303) 620-6021
4700 Claude Court, Denver, CO
greenhousedenver80216@gmail.com

Cultivando
Environmental Protection Agency

To Whom It May Concern:

I am writing in support of Cultivando and their Enhanced Air Quality Monitoring for Communities application request, which will support their work in creating equity for Environmental Health, for the Latinx community in Commerce City. This proposal is of significant interest to me as I manage a community space, The Green House Connection Center, in Elyria one of the most polluted communities in the country. These neighborhoods have suffered from pollution from, the highways, trains and other inland ports transportation toxins, industry, a gas plant and the Suncor refinery for decades.

We support this proposal because we recognize the importance of environmental health for the people of Commerce City, we know that by monitoring the quality of the air, we will not only support the Earth's ecosystem, but also the health and ecosystem of the community. Cultivando and the community will benefit from this project because they will be able to cultivate a deeper relationship with the Earth, feel motivated to advocate for systems wide policy change around environmental health, which will have significant implications on long term health equity related to environmental determinants of health. Community air monitoring is a crucial first step to empowering communities to advocate for the policies that will help protect their future. This information will also help residents make decisions if it's safe for their families to be outside and to be aware of the pollutants in the air and make correlations with headaches, nosebleeds, asthma attacks and other health concerns suffered by many in the area. These communities are years behind in having access and education to the environmental effects that disproportionally and directly affect them. This project will help start to bring environmental justice.

Cultivando is focused on promoting health equity through environmental health for the Latinx community of Commerce City and The Green House looks forward to being a part of this excellent work.

If you would like to speak with me about my endorsement of this proposal, please call me at 303-620-6021 or email greenhousedenver80216@gmail.com

Sincerely,
Harmony Cummings
Director
The Green House Connection Center

JOHN HICKENLOOPER
COLORADO

COMMITTEES:
COMMERCE, SCIENCE, AND TRANSPORTATION
ENERGY AND NATURAL RESOURCES
HEALTH, EDUCATION, LABOR, AND PENSIONS
SMALL BUSINESS AND ENTREPRENEURSHIP

United States Senate
WASHINGTON, DC 20510–0611

WASHINGTON, DC
374 Russell Senate Office Building
Washington, DC 20510
(202) 224-5941

COLORADO
Byron Rogers Federal Building
1961 Stout Street
Suite 12–300
Denver, CO 80294
(303) 244-1628

http://www.hickenlooper.senate.gov

March 16, 2022

Robin H. Richardson
Deputy Associate Administrator for Congressional
and Intergovernmental Relations
Environmental Protection Agency
1200 Pennsylvania Avenue, NW, Room 3426 WJC North
Washington, DC 20460

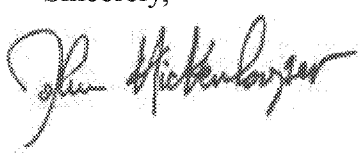
Dear Review Committee:

We write to express our support for the Cultivando Enhanced Air Quality Monitoring for Communities grant application. This grant will support important work taking place in Commerce City, Colorado and will go to Cultivando, which serves the Latinx community in Adams County and focuses on community leadership to advance health equity.

The purpose of this project is to engage with community members and leaders on improving the local environment and public health through local air quality monitoring . The priorities of this proposal were established by Cultivando and members of the community who are working to support a healthy environment in Adams County.

It is important for Adams County residents to be able to monitor their local environment. We ask that you give full and fair consideration to their application. Please contact our office if you have questions or if we can be of further assistance on this matter.

Sincerely,



John Hickenlooper
United States Senator

LEAGUE OF WOMEN VOTERS®
OF COLORADO

March 1, 2022

Olga Gonzalez, Executive Director
Cultivando
7190 Colorado Boulevard, Suite 300
Commerce City, CO 80022

Dear Ms. Gonzalez,

The League of Women Voters of Colorado (LWVCO) is pleased to write a Letter of Support to the Environmental Protection Agency (EPA) for Cultivando's grant request of $500,000 in funding under the community-based organization set-aside, pursuant to Enhanced Air Quality Monitoring for Communities, RFA#: EPA-OAR-OAQPS-22-01.

Grant funding will allow Cultivando to continue monitoring air quality in the community bordering the Suncor Refinery, to increase the number of promotoras (lay Hispanic/Latino community health workers who work in Spanish-speaking communities) who provide community education and outreach surrounding air quality, and to hire middle school and high school youth who will participate in a paid internship focused on environmental justice. A proposed documentary to highlight the pollution coming from the Suncor Refinery and its impact on the surrounding community will serve as a powerful tool to educate community members as well as legislators and regulatory agencies.

Cultivando has demonstrated their ability to quickly get projects for which they have been funded off the ground and operational. Approval of the EPA grant will allow them to continue to expand on the air quality monitoring and community education they have already begun.

Sincerely,

Karen W. Sheek
President

1410 Grant St B204, Denver, CO 80203
303-863-0437 • info@lwvcolorado.org • www.lwvcolorado.org

March 17, 2022

Aracely Navarro
Cultivando
7190 Colorado Blvd Ste 300
Commerce City, Colorado

Dear Aracely

We are writing today in support of Cultivando's proposal for grant funding to continue the A.I.R.E. (Air Quality Investigation and Research for Equity) program near the Suncor refinery which they successfully secured grant funding for the inaugural year that is currently underway. The ultimate success of any community scale air quality program requires time for data collection, analysis, and implementation of pollution reduction mechanisms. We strongly support continuing the Cultivando A.I.R.E. program and to further enhance this program to upgrade the mobile air lab so that real-time, continuous measurements can be taken as the mobile lab drives through communities in close proximity to the Suncor refinery which will increase the spatial coverage for data collection.

The mission of Moms Clean Air Force is to protect children from air pollution and climate change. We envision a safe, stable, and equitable future where all children breathe clean air. Our Moms Clean Air Force Colorado Chapter has been partnering with Cultivando over the past year and continues to support the work they are doing.

Robust air quality monitoring is critical to analyzing the chemical concentrations in the air and determining which chemical concentrations are of concern to set enforceable limits that are protective of public health and welfare. However, this work takes time and during this period of data collection, it is important to also keep the community informed. We have partnered with Cultivando for community education events such as EcoFiesta this past summer where we connected with the community and shared fact sheets on the Suncor refinery and air pollution in English and Spanish with the impacted community members. With the appropriate grant funding in place, we can continue this essential community engagement for the duration of the project.

Boulder A.I.R. continues to provide essential air quality monitoring programs in communities across the Denver Metro and Front Range area including monitoring stations in Boulder, Broomfield, Erie, Longmont, and Commerce City. This expanding network of continuous, real-time regulatory grade monitoring has allowed the scientists to compare data from various stations as they discern local pollution from regional sources. The value of the Cultivando program will be realized in communities most impacted by the Suncor refinery, but the benefits will extend beyond these local communities.

We appreciate your consideration of providing grant funding to continue the Cultivando AIRE program, and strongly support this ongoing work.

Sincerely,

Laurie Anderson, Field Organizer, Moms Clean Air Force Colorado Chapter
Shaina Oliver, Field Organizer, Moms Clean Air Force Colorado Chapter

20th ANNIVERSARY
GROUNDWORK DENVER

February 17, 2022

Tim Roberts
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Re: Letter of Commitment – Cultivando Air Quality Monitoring Grant Proposal

Dear Mr. Roberts,

Groundwork Denver is pleased to submit this letter of support for Cultivando on their Air Quality Monitoring Grant proposal. We support the proposed activities to monitor and engage community members in understanding data and taking informed actions to improve their health and environment.

Groundwork Denver partners with youth and community to build a healthy, equitable, and sustainable environment. As such, we support our partners in the community and have worked with Cultivando for more than 5 years to develop leaders in communities of color and under-resourced communities to advance health equity.

Groundwork Denver supports the proposal because improved understanding and accountability for air quality in the most impacted neighborhoods of our metro area will improve the health and well-being for all residents of our community.

We look forward to partnering in this important project. If you have any questions regarding our participation, please contact us.

Sincerely,

Cindy Chang
Executive Director

3280 N. Downing St. Unit E Denver, CO 80205
P: 303.455.5600 | www.GroundworkColorado.org

## Data Quality Assurance and Quality Control Protocols

**General Information:** All monitoring conducted by Boulder A.I.R. follows regulatory protocols and calibration grades (40 Code of Federal Regulations (CFR) Part 58), where applicable, or, alternatively, guidelines and calibration scales established by the World Meteorological Organization (WMO) Global Atmospheric Watch (GAW). All measurements are continuous, at 1 minute time resolution, except VOCs which are measured hourly. Instrument maintenance, including quality control and assurance protocols are overseen by Boulder A.I.R. staff members Jacques Hueber, Ryan Daly, and Kat Potter. All three of these scientists have Masters, respectively Ph.D. degrees in engineering and atmospheric monitoring applications, and a combined 40+ years of experience in atmospheric monitoring. Each site is visited 2-3 times each week by these scientists for maintenance and calibration tasks. All activities and calibration data are logged in Google Docs files. Oversight and coordination are provided by Dr. Detlev Helmig, a recipient of an EPA Young Investigator award, and who has 35+ years of experience in atmospheric trace gas monitoring. Bios of these personnel are provided as attachments. Measurement specific instrument and QC information are provided below.

**Wind Speed/Wind Direction:** Campbell Scientific MetSENS500 and RM Young Wind Monitor AQ, 05305-PT mounted on a meteorological tower at ~8.5 m height. Every 6 months, a wind speed and wind direction calibrations checks using a vane angle stand (RM Young, 18112) and an anemometer drive (RM Young, 200-15,000 RPM, 18802) standard. Yearly audit by CDPHE.

**Temperature, Relative Humidity, Barometric Pressure:** Campbell Scientific MetSENS500 mounted on a meteorological tower at ~8.5 m height using factory calibration.

**Ozone ($O_3$):** Thermo Scientific model 49C UV absorption monitor, air is pulled from an inlet mounted at 8 m height. Sampling line is 10 m length, ¼ inch o.d., 3/16 inch i.d. PFA tubing with a PFA filter holder with 1 micron Teflon membrane filter, replaced every two months. Calibration scale is referenced against the EPA Region 8 primary ozone standard. Automated daily zero and span checks using Thermo Scientific 49C calibrator. Quarterly, full range linearity checks at 0, 25, 50, 100, 200, 400 ppb. Yearly calibration check with level 2 standard (Thermo Scientific 49C calibrator unit) referenced against EPA Region 8 ozone reference standard (May 20, 2021). Yearly site audit by CDPHE.

**Hydrogen Sulfide ($H_2S$):** Teledyne T101 monitor. Air is pulled from inlet at 8 m height. Sampling line is 10 m long, ¼ inch o.d., 3/16 inch i.d. PFA tubing equipped with a PFA filter holder with 1 micron Teflon membrane filter, replaced every two months. Calibrations by dynamic dilution of a 5 ppm $H_2S$ primary EPA-grade standard (Linde Gas & Equipment Inc.), using Thermo Scientific 146i Multi-gas Calibrator. Weekly zero and span checks. Every 6 months 5-level linearity check (0, 25, 50, 75, 100 ppb).

**Sulfur Dioxide ($SO_2$):** Teledyne T101 analyzer in air pulled from an inlet mounted at 8 m. Sampling line is 10 m x ¼ inch o.d., 3/16 inch i.d. PFA tubing equipped with a PFA filter holder that houses a 1 micron Teflon membrane filter. Filters replaced every two months. Calibrations by dynamic dilution of 5 ppm $SO_2$ primary EPA-grade standard (EPA protocol grade gas, Linde Gas & Equipment Inc.), with Thermo Scientific 146i Multi-gas Calibrator. Weekly zero and span checks. Every 6 months, 5-level linearity check (0 ppb, 25 ppb, 50 ppb, 75 ppb, 100 ppb).

**Carbon Monoxide (CO):** Picarro G-2401 in air sampled from inlet at 8 m height. Sampling line is 10 m length, ¼ inch o.d., 3/16 inch i.d. PFA tubing with PFA filter holder with 1 micron Teflon membrane filter. Filters replaced every two months. Manufacturer's calibration settings are applied. Calibrations checks by dynamic dilution of 100 ppm CO primary standard (EPA protocol grade gas, Linde Gas & Equipment Inc.), using Thermo Scientific 146i Multi-gas Calibrator. Monthly zero and span checks. The output of the calibrator is introduced through the zero or span valve of the instrument, respectively. Every 6 months, a 5-level linearity check is performed (0, 500, 1000, 2000, 3000 ppb).

**Carbon Dioxide ($CO_2$):** Picarro G-2401 in air sampled from inlet at 8 m height. The sampling line is 10 m, ¼ inch o.d., 3/16 inch i.d. PFA tubing with a PFA filter holder that houses 1 micron Teflon

membrane filter. Filters replaced every two months. Manufacturer's calibration settings are applied. Calibration checks every 48 hours with breathing air grade ambient air gas mixture from a compressed tank with $CO_2$ cross-referenced against the NOAA Global Atmospheric Monitoring Laboratory (GML) $CO_2$ scale; estimated accuracy error of < 3 ppm. When deviations of the monitor exceed 5 ppm cross-reference to a second standard is done. If deviation is confirmed, recalibration of the analyzer.

**Methane ($CH_4$):** Picarro G-2401 in air sampled from inlet at 8 m height. Sampling line is 10 m length, ¼ inch o.d., 3/16 inch i.d. PFA tubing with PFA filter holder that has 1 micron Teflon membrane filter. Filters replaced every two months. Manufacturer's calibration settings are used. Calibration checks every 48 hours with breathing air grade compressed gas from a tank that is cross-referenced to the NOAA GML methane scale; estimated accuracy error of < 2 ppb. When deviations of the monitor exceed 5 ppb, cross-reference to a second calibration standard. If this confirms the deviation, then a recalibration of the analyzer is conducted.

**Nitrogen Oxides ($NO_x$):** Teledyne Model API T200UP chemilumiescence analyzer using photolytic converter for $NO_2$. The sampling line is 10 m length, ¼ inch o.d., 3/16 inch i.d. PFA tubing with PFA filter holder with 1 micron Teflon membrane filter. Sampling inlet at 8 m height. Filters replaced every two months. Calibrations by dynamic dilution and titration of a 10 ppm NO primary standard (EPA protocol grade gas, Linde Gas & Equipment Inc.) with Thermo Scientific 146i Multi-gas Calibrator with Gas Phase Titration system (GPT). 6-level linearity check (0 ppb, 20 ppb, 40 ppb, 80 ppb, 120 ppb, 180 ppb). Conversion efficiency tested at 2 levels using the GPT: 150 and 20 ppb $NO_2$. Linearity check for $NO_2$ at 5 levels (20 ppb, 40 ppb, 60 ppb, 120 ppb, 150 ppb). Once a year, audit by CDPHE.

**Particulate Matter:** EPA-certified GRIMM EDM180 monitor. Air is sampled from an inlet stack protruding approximately 1 m above the instrument shelter roof. Two size ranges reported, PM_10 (coarse particles) for all particles smaller than 10 µm, PM_2.5 (fine particles) for all particle mass smaller than 2.5 µm. Weekly zero tests are performed using a 0.25 micron particle filter at the sample inlet. Every 6 months, a field test to check the instrument with a 1 micron standard using a nebulizer, followed by 2.5 micron standard.

**Volatile Organic Compounds:** Preconcentration unit interfaced to a gas chromatograph (GC) using a flame ionization detector (FID) and mass spectrometer (MS) detectors. Sample air inlet at 8 m height. Sampling line is 10 m length, ¼ inch o.d., 3/16 inch i.d. PFA tubing, heated to 40°C, with PFA filter holder with 1 micron Teflon membrane filter. Filters replaced every two months. VOCs are extracted over a 10-minute time window with Markes International UNITY-xr. Sample air dried to a temperature of -30°C with Markes U-T1KORI before collection on sorbent media focusing trap (Markes U-T3ATX-2S). Agilent 8860 GC with Agilent 5977B mass spectrometry detector equipped with a column switch. Lighter VOCs (ethane through iso-butane) analyzed on alumina PLOT column; heavier VOCs portion on a second DB-624 column. GC separation by temperature-programmed GC. Approximately twenty VOCs traced and quantified routinely (ethane, propane, butane, pentane, hexane, octane, benzene, toluene, acetylene, ethene, propene, isoprene, *cyclo*-pentane, *ethyl*-benzene, *m&p-*, *o*-xylene). Calibration scale tied to the WMO-GAW, using primary calibration standards from the U.K. National Physics Laboratory. Zero-air blank runs after each set of 45 ambient sample. Calibration standard is run weekly.

**Hydrogen Cyanide (HCN):** HCN is quantified on the above VOC GC/MS system by selected ion monitoring using the mass spectrometer detector. Calibrations by dynamic dilution of a 100 ppb certified gas standard (± 5% analytical accuracy; Apel Riemer Environmental, Inc.).

**Radioactivity:** Monitored at 2 m above ground level. Bertin Instruments AlphaGUARD DF2000 for measurement of alpha radiation emitted from Radon 222 and Radon 220. AlphaPM Radon Progeny Monitor measures alpha radiation from radon daughters that are attached to particulate matter. Manufacturer calibration settings are used. Manufacturer recommends the instrument to be returned to the factory for a calibration check after five years of operation. The AlphaPM monitor is supplied with an Am-241 source for field calibration checks.

IRS Department of the Treasury
Internal Revenue Service

ATLANTA GA 39901-0001

In reply refer to: 0752861009
Mar. 06, 2019 LTR 4168C 0
84-1499624 000000 00
00029981
BODC: TE

CULTIVANDO
% CRISTIE JOPHLIN MARTIN
PO BOX 29247
THORNTON CO 80229-0247

032668

Employer ID number: 84-1499624
Form 990 required: YES

Dear Taxpayer:

We're responding to your request dated Feb. 25, 2019, about your tax-exempt status.

We issued you a determination letter in AUGUST 1999, recognizing you as tax-exempt under Internal Revenue Code (IRC) Section 501(c)(3).

We also show you're not a private foundation as defined under IRC Section 509(a) because you're described in IRC Sections 509(a)(1) and 170(b)(1)(A)(vi).

Donors can deduct contributions they make to you as provided in IRC Section 170. You're also qualified to receive tax deductible bequests, legacies, devises, transfers, or gifts under IRC Sections 2055, 2106, and 2522.

In the heading of this letter, we indicated whether you must file an annual information return. If you're required to file a return, you must file one of the following by the 15th day of the 5th month after the end of your annual accounting period:

- Form 990, Return of Organization Exempt From Income Tax
- Form 990EZ, Short Form Return of Organization Exempt From Income Tax
- Form 990-N, Electronic Notice (e-Postcard) for Tax-Exempt Organizations Not Required to File Form 990 or Form 990-EZ
- Form 990-PF, Return of Private Foundation or Section 4947(a)(1) Trust Treated as Private Foundation

According to IRC Section 6033(j), if you don't file a required annual information return or notice for 3 consecutive years, we'll revoke your tax-exempt status on the due date of the 3rd required return or notice.

You can get IRS forms or publications you need from our website at www.irs.gov/forms-pubs or by calling 800-TAX-FORM (800-829-3676).

If you have questions, call 877-829-5500 between 8 a.m. and 5 p.m.,

0752861009
Mar. 06, 2019 LTR 4168C 0
84-1499624 000000 00
00029982

CULTIVANDO
% CRISTIE JOPHLIN MARTIN
PO BOX 29247
THORNTON CO 80229-0247

local time, Monday through Friday (Alaska and Hawaii follow Pacific time).

Thank you for your cooperation.

Sincerely yours,

Teri M. Johnson
Operations Manager, AM Ops. 3

**Project Title:** *Air Quality Investigation and Research for Equity (AIRE)*
**Organization:** Cultivando
**Address:** 7190 Colorado Blvd Commerce City, CO
**Contact Information:** Aracely Navarro, 720-437-830, aracely@cultivando.org
**DUNS #:** 962038803 **Set Aside: Community-based organization set-aside:** Cultivando represents the Latinx, low-income, immigrant, and Spanish-speaking community in Commerce City, CO.
**Brief Description of Applicant Organization:** Cultivando is a non-profit organization that serves the Latinx community in Adams County and focuses on community leadership to advance health equity through advocacy, collaboration, and policy change. Our work is based on our organizational values of community-led work, social justice, and collaborative leadership. We passionately believe that all people have the power to maintain fair and equitable systems and to ensure opportunities for their communities to thrive. Key ongoing projects include the Latino Engagement Task Force, Cultiva Tu Salud, FFN, and Promotora trainings, and the AIRE project.

**Project Partner:** Boulder Atmosphere Innovation Research (AIR) LLC, Detlev Helmig

**Project Location:** Commerce City (80022), Globeville (80216), Elyria-Swansea (80216)

**Air Pollutant Scope:** Monitoring of primary and secondary air pollutants: ozone, methane, volatile organic compounds (VOCs; including hazardous air pollutants (i.e. n-hexane, 2,2,4-trimethylpentane, styrene, and BTEX species benzene, toluene, ethylbenzene, xylenes), hydrogen cyanide, carbon monoxide, carbon dioxide, hydrogen sulfide, sulfur dioxide, dimethyl sulfide, nitric oxide, nitrogen dioxide, particulate matter (PM2.5 and PM10), and airborne radioactivity.

**Budget Summary:**

| EPA Funding Requested | Total Project Cost |
|---|---|
| $500,000 | $500,000 |

**Project Period:** January 2023-December 2024

**Short Project Description:** The main goal of the AIRE project is to quantify and identify the air toxins that are present within and throughout the Commerce City, Globeville, and Elyria-Swansea neighborhoods and their emission sources. The characterization of these air toxics will address issues of environmental racism and injustice that are present in these communities. This will be achieved by operating a continuous monitoring station at a strategically placed location within the impacted area and deploying a mobile air monitoring van for identification and characterization of point emission sources.

## Workplan

### *Section 1 – Project Summary and Approach*

*A. Overall Project:* Cultivando, in partnership with Boulder AIR, has developed a community-based air monitoring program that aims to identify and quantify the most concerning air pollutants that adversely affect public health and the environment (**Figure 1**). Two main air pollution monitoring and reporting platforms have been built and deployed in Commerce City and the surrounding areas of Globeville and

Elyria-Swansea. One monitoring site is currently a fixed station in Commerce City (CCF), located approximately 1 km north of the Suncor Refinery. This air monitoring currently captures more air pollution species and measurements at a given site than any of the State's air monitoring. Data characterize regional air quality and source emissions from local industrial operations. The second is a mobile instrument trailer that is deployed at locations in adjacent neighborhoods for 2-week intervals to evaluate the community's exposure to emissions. Both platforms hold state-of-the-art regulatory and research grade instruments that collect data at a quality that is fully recognizable by regulatory agencies. We are monitoring those pollutants that are of most concern to public health. All monitoring is continuous, with all pollution information and data interpretation becoming immediately available to the public free of charge on a user-friendly and bilingual website. A major component of this project is ensuring that community members are actively leading, informing and participating in our work.

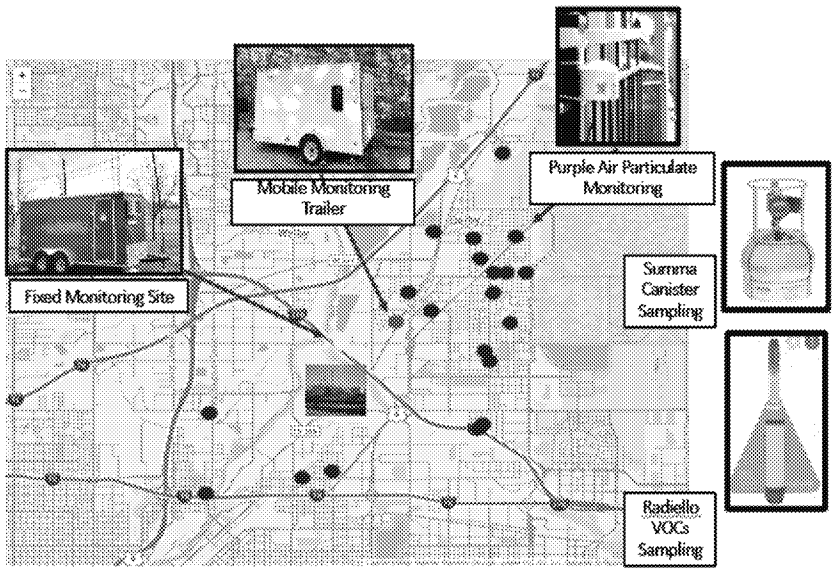



**Figure 1.** Locations and program components of the current Cultivando air monitoring program in Commerce City. A stationary (fixed) field laboratory provides year-round observations of primary air pollutants. Other components of the current program are community monitoring using a mobile instrument trailer, particulates monitoring with Purple Air sensors, Summa canister sampling for VOCs, VOCs passive sampling with Radiello solid adsorbent cartridges, and dispersion modeling. See https://www.bouldair.com/commerce_city.htm for more detailed information and real-time monitoring data. This proposal requests funding for continuation of one of these study components, i.e. extension of measurements at the stationary site for one more year, and one new component, i.e. the first-time deployment of a plume-tracker mobile monitoring van.

This research proposal builds on a currently ongoing project that was planned and funded for one year of continuous observations. The community is eager for this monitoring to continue; thus, we are proposing to keep the stationary (fixed) field laboratory and all included observations up and running for one additional year, extending its overall monitoring to two years total. The current observations have already revealed a plethora of new insight into the abundance of air pollutants: Levels of all monitored species, except ozone, are higher in Commerce City than at any other Northern Colorado air monitoring sites. Highest elevated concentrations are seen, in this order, for 1. hydrogen sulfide ($H_2S$), 2. particulate matter, 3. methane and VOCs. Real-time comparison graphs for all monitored pollutants can be viewed under the 'Compare Nearby Cities' tab at https://www.bouldair.com/commerce_city.htm. The most extreme and concerning pollutant enhancements thus far have been seen for hydrogen sulfide. **Figure 2** illustrates two weeks of $H_2S$ observations from the Commerce City Fixed (CCF) site, contrasted by concurrent monitoring results from the Broomfield Soaring Eagle (BSE) site, approximately 20 km (about 12 mi) to the northwest. While BSE did not experience any event with readings above 5 ppb, there were some 50 occurrences of $H_2S$ spikes above that threshold during this two weeks' time window, with maximum $H_2S$ readings exceeding 80 ppb. $H_2S$ is a strong odorous gas, with sensitive people noticing the odor at 8 ppb and above. Bivariate wind dependency data analyses by Boulder AIR have revealed rather different dependencies of pollutant occurrences on winds. **Figure 3** illustrates five preliminary example

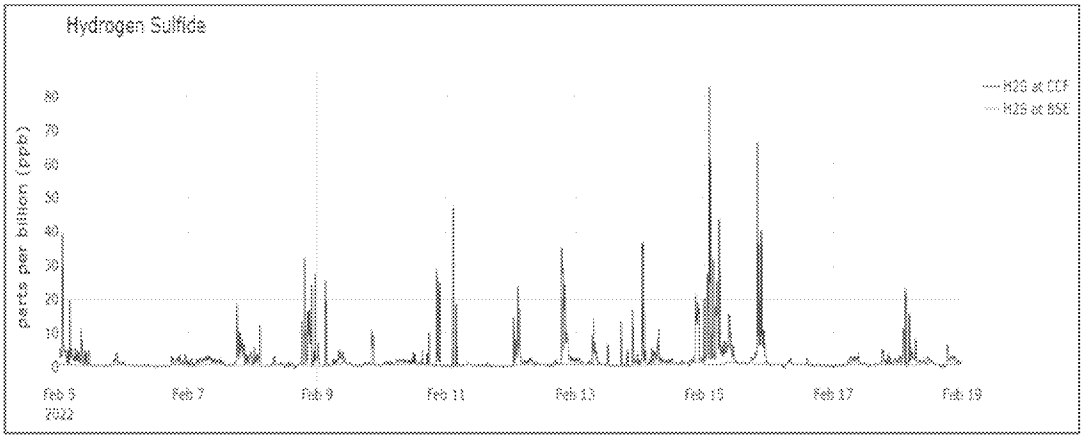



**Figure 2.** Hydrogen sulfide monitoring results from February 2022, contrasting Commerce City Fixes site (CCF) data with data from Broomfield Soaring Eagle (BSE).

results for hydrogen sulfide, sulfur dioxide, methane, nitrogen oxides, and particulate matter. $H_2S$ shows two prominent upwind source directions, with one at approximately 240 degrees (southwest), aligning with a water treatment facility, and the other one at approximately 200 degrees (south), which is the direction of the Suncor refinery, located approximately 0.5 to 1.5 km to the south. The strongest particulate matter sources appear to be in the sector stretching from north over east to southeast. It is rather remarkable that for $SO_2$, methane, and PM, high pollution levels are observed at higher winds. Most commonly, the opposite behavior is found as stronger winds typically result in more vigorous dilution, yielding lower concentrations. For particulate matter, the explanation is likely the mobilization of dust during high winds. For $SO_2$, methane, and $NO_x$, we suspect that higher winds cause stronger vertical mixing, and with that pollution from Suncor refinery stacks to be more vigorously mixed to the surface rather than being transported longer distances aloft before the stack emissions encounter the surface.

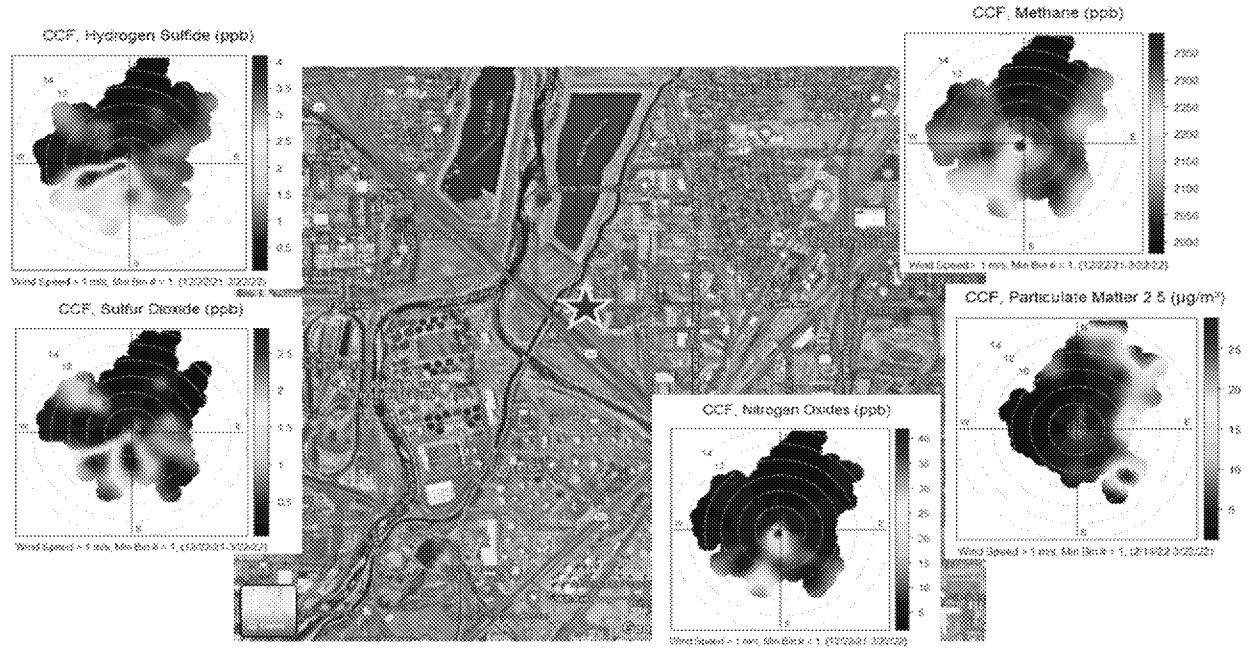



**Figure 3.** Bivariate wind dependency analyses of hydrogen sulfide, sulfur dioxide, methane, PM_2.5, and nitrogen oxides. The monitoring location, Commerce City Fixed (CCF) site, is indicated by the star. The bivariate plots show the average pollutant concentrations (units are given in the title line) in dependence of wind direction (360-degree compass) and wind speed, with wind speed increasing from the center of the plot to the outside in m/s, according to the numerical scale provided in the graph. Please note the shorter record/higher uncertainty in PM results.

While the current program has already been exemplary in characterizing air pollution levels, their dynamic behavior and wind dependency, this monitoring does not allow to unequivocally identify contributing emission sources. To accomplish this goal, we propose here a new mobile monitoring platform relying on an instrumented van that will facilitate continuous monitoring while in motion, i.e. driving on roads in residential and industrial areas of Commerce City and the surrounding communities. The van will be equipped with monitoring equipment for meteorological conditions and measurements of the most critical pollutants, i.e., methane, ethane, hydrogen sulfide, $SO_2$, and nitrogen oxides. Target deployment of the van will be during low wind and inversion conditions when air pollutants reach their highest levels, including at night. A particular emphasis of the deployment will be in areas upwind of CCF to allow investigation of selected emission areas through upwind (mobile van) - downwind (CCF) comparison of monitoring results. About 120 hours of deployment (approximately 30-40 days) are planned and budgeted. Working with and led by the Boulder AIR scientists, during the last six months of the project we plan to develop a scientific publication that summarizes the by then 2+ years of air quality monitoring observations and major findings and conclusions that have been derived from the study.

We have convened a Community Advisory Board, made up of concerned residents who will guide our work. Extensive community engagement work and recruitment will be made possible by the work of our Promotoras, who are trained leaders and trusted members of the community. They will be disseminating information, promoting educational workshops around air quality, facilitating listening sessions and helping to recruit high school students for our environmental justice youth internship program. A key component that will be added is interpretive analysis of the air monitoring data, so that community members can understand the true public health impacts of the air pollutants that have been found by our monitoring network. This project aims to learn which toxics are present in the air, to identify the source(s) of these toxics, and ultimately, to understand the possible impacts on people's health.

***B. Project Significance:***

The communities of Commerce City, Globeville, and Elyria- Swansea have long been suffering from environmental contamination and degradation. These communities have long been in the news boasting the titles for "The most polluted zip code in the U.S."[1] These are communities that are surrounded by industry operations such as oil and gas refineries, power plants, and by major highways. Residents have seen expansion and road construction that has cut through their community. Many people have been living in these neighborhoods for decades and have a deep-rooted history with the land and have seen all the changes that have come. They are understandably concerned about how all these factors may have affected their health and quality of life.

Cultivando has been in the Commerce City area for over two decades. Throughout our time serving this community, we have heard from many people expressing their concern over the poor air quality and its possible connection to their poor health. We have witnessed several mothers crying out of concern for their children's health. They have told us about how their children have suffered from frequent headaches, nosebleeds, and breathing problems. We have heard stories about how family members living in this area have passed away from diseases such as cancer. Even within our team, every person has had a

[1] Knoblauch, J. A. (2018, April 24). *A giant oil refinery wants to hide its role in creating the nation's most polluted ZIP code*. Earthjustice. Retrieved March 22, 2022, from https://earthjustice.org/blog/2018-april/a-giant-oil-refinery-wants-to-hide-just-how-dirty-it-makes-the-nation-s-most-polluted-zip-code

family member affected by cancer. The issues of poor environmental health are not something that this community reads about, they are living it. This is a situation of life and death for many people living here.

In the community, there is widespread generational concern regarding the air they breathe every day. They can not only smell the stench in the air, at times, they can even see it. The community wants to know where these toxins are coming from, what effect they may be having on their health and what actions they can take to remediate and remove them. As seen in the section above, this project has already revealed concerning levels of air pollutants, but this is only the beginning.

## *Section 2 – Community Involvement*

### A. Community Partnerships

Our main community partner, and whom we will be contracting for this work, is Boulder AIR. Boulder AIR has extensive experience conducting community-based air monitoring. With funding from Boulder County, the City of Longmont, the City and County of Broomfield, and the Town of Erie, over the past 5 years, Boulder AIR has implemented a comprehensive air monitoring program that currently encompasses eight stations in the Colorado Front Range. The two most recent additions to the network are in Commerce City. Boulder AIR has handled the development and maintenance of these monitoring stations. They have collected and hosted the data on a dedicated program site that is connected to Cultivando's website. Boulder AIR has been recognized in Colorado as a leader in air quality monitoring science. We are hoping to continue working with Boulder AIR to extend this community-based air monitoring project. We also hope to continue learning about best practices for air quality monitoring and finding the air toxics that are present in the community.

We have many more community partners that will be aiding us in our outreach and education efforts. In terms of advocacy and aid with outreach, we have the support of Mom's Clean Air Force, Board of the State League of Women Voters, The Greenhouse, Groundwork Denver, the Black Parent United Foundation, the Colorado Department of Public Health and Environment (CDPHE), and the office of U.S. Senator John Hickenlooper. Our partners have extensive experience engaging the community around environmental justice issues. Most of these organizations are led by people of color and have a large base of community supporters. These organizations will also benefit from this partnership because they will be able to reach their goal of engaging impacted communities in their environmental justice work. CDPHE will be supporting us by providing educational workshops focusing on air quality and current policy. We will also be engaging with the school district to facilitate educational workshops for students and families around air quality issues present in the community. We aim to sustain these relationships beyond the grant period, by continuing to work together and ensuring that the resources we offer, and our partners offer, are reaching our community members.

### B. Community Engagement

AIRE is a result of numerous community requests for our organization to provide support in the fight for environmental justice and health. Community members living near the Suncor Refinery were key in informing the development of this project and their leadership and input is requested at every step. We are planning to maintain a 10-member Community Advisory Board for the duration of this project. This

board is made up of local residents who have had direct experience with environmental burdens and who are direct stakeholders in the outcomes of the project.

The monitoring data will be processed in real-time for posting within minutes to a public, dual-language (English/Spanish) web portal. Monitoring results will also be summarized in tabulated formats and time series graphs. The data will be used to calculate and report a Current Air Quality Conditions Index. The website will also provide outreach information to explain measurement methods and observed levels in relation to health thresholds. Biannual progress reports will be publicly posted to the project website. We will deliver periodic reports to the fence line communities and the larger Denver community as well. More in-person and/or zoom presentations will be considered as desired by community members.

In addition to our air monitoring efforts, we are working with the Adams 14 School district to promote our high school student internship program. This internship program aims to educate local youth on issues of environmental science, health and policy, with a focus on the air quality monitoring that is taking place in their neighborhoods. In addition, we offer ongoing educational workshops and trainings around air quality and policy. We partner with many local nonprofits and governmental agencies to create and facilitate these workshops. These are critical components to raising community awareness, developing leadership, and supporting advocacy for environmental justice within these impacted communities.

**C. Community-Based Organization Set-Aside**

Please see the document that is provided in the Attachments section.

## *Section 3 – Environmental Justice and Underserved Communities*

The communities of Commerce City, Globeville, and Elyria-Swansea have long suffered from environmental racism leading to health inequities. These communities are primary made up of people of color, who are also low-income. According to data pulled from **EPA's Environmental Justice Screening and Mapping Tool**[2], 75% of Commerce City's population is low-income, placing them in the 95$^{th}$ low-income percentile, compared to other areas in the United States. In these same areas, the population consists of 75% people of color, placing them in the 80$^{th}$ percentile compared to the U.S. Overall, there are areas in Commerce City that are in the 91$^{st}$ percentile for the Demographic Index.[2] In terms of environmental justice indexes, there are many areas in Commerce City that are in the 95$^{th}$ percentile for factors such as Ozone, Air Toxics Cancer Risk, Diesel Particulate Matter, Air Toxics Respiratory HI and Superfund proximity. There are also some areas that are in the 92$^{nd}$ percentile for PM 2.5 exposure[3]. In terms of health outcomes, there are areas that are in the 80$^{th}$-90$^{th}$ percentile and in the 90$^{th}$-95$^{th}$ percentile for life expectancy. Denver took the title for having the worst air quality in the world in the summer of 2021[4]. It is no coincidence that the communities swamped with pollutants happen to be predominantly low-income, Black, and Brown communities. There is healing to be done in these communities and it starts with accurate, reliable air quality monitoring and community education.

---

[2] Environmental Protection Agency. (2022, February 22). *EPA's Environmental Justice Screening and Mapping Tool (Version 2.0)*. Environmental Justice Screen. Retrieved March 24, 2022, from https://ejscreen.epa.gov/mapper/

[3] Ibid.

[4] Nicholson, K. (2021, August 7). *Denver ranks no. 1 in List of International Cities for Air Pollution Saturday*. The Denver Post. Retrieved March 24, 2022, from https://www.denverpost.com/2021/08/07/denver-air-pollution-ranking/#:~:text=Denver%20bolted%20Saturday%20afternoon%20to,IQAir%2C%20world%20air%20quality%20rankings.

The impacts of COVID-19 cannot be compartmentalized from this topic of air quality, as it was struggling families who endured most of the financial and medical hardship from the pandemic. Many of the families in these areas are monolingual Spanish-speakers and immigrants, factors that affect access to health care, nutrition, and lack of involvement in decision-making processes. "Hispanic and Latino Americans are more likely to die from COVID-19 than non-Hispanic White Americans, with excess risk higher among younger age demographics."[5] In addition, it was proven that communities who are suffering from poor air quality were at even greater risk of contracting COVID-19. An association was found between air pollution over many years with an 11% increase in mortality from COVID-19 infection for every 1 $\mu g/m^3$ increase in air pollution.[6] Thus, the cumulative impacts of being Latinx, low-income, and already living in polluted areas, placed these communities in a tragic position for illness, exasperating issues of environmental justice.

## *Section 4 – Environmental Results—Outcomes, Outputs and Performance Measures*

A. Expected Project Outputs and Outcomes

The most impactful activities with their corresponding outputs and outcomes can be found in Table 1. The continuation of our Stationary Monitoring Site and implementation of a mobile van has associated short-term outputs of characterizing and quantification of ambient air pollution sources. These pollutants are some of the most significant for public health and are of most concern. In addition, the data will be collected on a continuous basis, with immediate availability on an online platform. In the long term, this data will serve to educate community members and stakeholders about the air contaminants present. It will also serve as an added database to be referenced by policy and decision makers when creating environmental policy for the protection of public health, with a goal of reducing harmful air contaminants. Examples of data outputs can be found above in Section 1A, **Figure 2 and 3**. The interpretive data analysis will also serve to provide context and health information associated with the air quality data gathered, which will serve to distribute educational materials to community about health impacts. Boulder AIR has committed to prepare one peer-reviewed publication at the end of the project to disseminate the monitoring results and interpretations to the wider scientific community. Besides Dr. Helmig, other Boulder AIR staff that will be involved in the data analyses and manuscript development, will be Lisa Darby and Gabriel Greenberg. The CVs of these scientists are included in the attachments section. The long-term goal for interpretive data analysis is also to improve policy, so that regulations on industry that pollute communities may be more stringent and protective of public health. Finally, community outreach and education are extremely important in this project and will be done on an ongoing basis. Community members will be continuously consulted through a Community Advisory Board and listening sessions. We will also be providing educational opportunities such as workshops and student internships so that community members may be informed about the data that we are collecting. Our long-term goal with our community engagement is that members of the community be informed about air quality, while also being empowered to be involved in stakeholder meetings where policy decisions are being made. We aim to prepare community members to engage in decision-making spaces, where they use their voice to advocate for public health and environmental justice.

---

[5] Yoch, M. (2022, March 2). *Examining the impact: Covid-19 and the Hispanic Community*. Institute for Health Metrics and Evaluation. Retrieved March 24, 2022, from https://www.healthdata.org/acting-data/examining-impact-covid-19-and-hispanic-community

[6] WU, X., Nethery, R., Sabath, M., Braun, D., & Dominici, F. (2022, November 4). *Air pollution and covid-19 mortality in the ... - science.org*. Science. Retrieved March 24, 2022, from https://www.science.org/doi/10.1126/sciadv.abd4049

**Table 1**. Outputs and Outcomes

| Activity | Outputs | Outcomes |
|---|---|---|
| Continuation of stationary air monitoring in Commerce City for one full year. Present all data in real time on a public website. | Continuous monitoring data for meteorology, ozone, methane, VOCs (including the classes of hazardous air pollutants (n-hexane, 2,2,4-trimethylpentane, styrene, and BTEX species benzene, toluene, ethylbenzene, xylenes), hydrogen cyanide, carbon monoxide, carbon dioxide, hydrogen sulfide, sulfur dioxide, nitric oxides, particulate matter (PM2.5 and PM10), and airborne radioactivity. | 1.Community action to identify and mitigate certain air pollutants.<br>2.Decrease existing pollution in pin-point areas and build framework that would prevent pollution in the future.<br>3.Reduction of exposure to air pollutants. |
| Mobile van neighborhood profiling. | Identification of sources of selected critical air pollution (methane, ethane, hydrogen sulfide, sulfur dioxide, nitrogen oxides, and particulate matter (PM2.5 and PM10). | 1.Increased knowledge of where pollution is concentrated.<br>2.Show boundaries of where the pollutants have travelled and what populations are affected.<br>3.Identify and characterize pollution point sources. |
| Interpretive data analysis and peer reviewed scientific publication. | Community-specific assessments of air pollution data; comparison of pollution levels with other regional sites, identification of pollution sources. Publish at least one peer-reviewed scientific paper. | 1.Dissemination of new knowledge and awareness of pollution levels and emission sources.<br>2.Direct policy that to protect communities from air pollution. |
| Community outreach and education. | Promotion of partnerships and community involvement through various activities and information exchanges, including workshops, student internship, listening sessions, and Community Advisory Committee. | 1.Increased community awareness and engagement.<br>2.Access to information and tools that increase understanding and yield reduction of environmental and human health risks. |

B. Performance Measures and Plan

Cultivando will submit biannual project status reports that will serve to track, measure, and report progress towards achieving the stated goals. Status reports will include the following information: a description of activities completed to date; a budget summary listing funds spent to date by budget category; and a discussion of any expected changes to the project scope or timeline. The reports will be available approximately two months after the quarter and will be shared with community members through our website. The Completion report will be submitted within 60 days of project completion and will serve as our main evaluation tool for this project. The report will contain at a minimum: a detailed description of the project as implemented; a summary table identifying project deliverables and tasks along with the associated completion date; a description of any operating problems encountered and the solutions thereto; a full expense accounting including itemized costs, documented by copies of purchase orders, contracts, receipts or canceled checks; a description of the environmental and public health benefits resulting from implementation of the project along with quantification of the outcomes and benefits; examples of brochures, educational or outreach materials developed or produced as part of the project; and photographs documenting the project. We will also evaluate our efforts by reporting on the number of project website visits, measuring how many community members were reached, as well as if, and how, this data was used to make environmental policy/justice decisions.

C. Timeline and Milestones

The timeline for this project including tasks and reports, along with estimated dates and responsible parties can be found below in **Table 2**. We have estimated a start date of January 1, 2023, to give space for the disbursement of funds and any roadblocks. This will be a two-year project and go through December of 2024. See below for more details on planned activities.

**Table 2.** Workplan Timeline

| Activities | Responsible Organization | Date |
|---|---|---|
| Project start date | Cultivando | January 1, 2023- Depending on EPA disbursement of funds |
| Disbursement of funds to Boulder A.I.R. | Cultivando | January-February 2023- Depending on receipt of funds from EPA (50% onset and 50% midway) |
| Continuation of fixed monitoring site, alerts and real-time data availability on website. | Boulder AIR | Tentatively June 2023 – This project will add one year of monitoring to the currently ongoing and funded observations. |
| Equipment Acquisition and completion of Mobile Lab Van | Boulder AIR | January-May 2023 |
| Deployment of Mobile Lab Van | Cultivando and Boulder AIR | June 2023 - May 2024 |
| Community Engagement, I.e., Community Advisory Council meetings, listening sessions, educational Workshops | Cultivando | Begin in January 2023 and will be ongoing for the duration of the project monthly. |
| Quarterly reports | Cultivando and Boulder AIR | Every 3 months, May 2023 to October 2024 |
| Scientific publication | Boulder AIR and Cultivando | July 2024 to December 2024 |
| Final Report and data interpretation, project completion | Cultivando and Boulder AIR | December 2024 |

## *Section 5 – Quality Assurance Statement*

This document is provided in the attachments section.

## *Section 6 – Programmatic Capability and Past Performance*

A. Past Performance

Cultivando has been able to accomplish and fulfil the goals associated with several previous grants. One such grant was the "Healthy Places Grant" that was awarded $1,000,000 from the Colorado Health Foundation to be used over 3 years to increase access to healthy, community recreation opportunities for our Latino community. The City of Commerce City staff worked with Cultivando, the Latino Engagement Taskforce (LET), and other interested community members, to make sure that the plans that we implemented were community-driven and culturally relevant for Latino families. A key accomplishment is Cultivando's partnership with Commerce City Parks and Recreation; "Cultiva Tu Salud" became institutionalized and is still ongoing today. Close to 200 community members were served under this partnership.

Another agreement we successfully carried out is the "Together We Count Grant (Census Outreach in the Latinx community)." We were able to share census information in the Latinx and Spanish-speaking community through existing bi-monthly community workshops and programs, social media and text reminders, and in-person interactions at schools, churches, businesses, clinics, nonprofit partners and other community spaces. We were able to reach 1,801 people in Commerce City and Thornton.

Through our partnership with The Colorado Health Foundation, we were able to implement bi-monthly "Salud Emocional" (mental wellness classes) in person and via zoom. Our Promotoras offered "Abriendo Puertas" trainings which are linguistically and culturally relevant trainings that focus on the developmental and emotional needs of Latino children from birth to 5 years of age. We implemented the "Healthy Kids at Home" program that provides educational materials and resources to home-based

child-care providers or Friends Family Neighbor (FFN) providers. In our first year, we were able to reach 1,022 community members.

Our "Caring for Colorado - Together We Protect" grant focused on COVID vaccine outreach to Latino youth throughout Adams County. Through weekly community outreach via Facebook, texts, WhatsApp, calls, email, churches, community events, and partner organizations, we were able to reach a total of 2,997 community members.

Finally, Cultivando received almost $2 million dollars from CDPHE for a one-year environmental project to address air quality and health metrics in Commerce City and the surrounding communities. This grant allowed us to create the Air Quality Investigating and Research for Equity (A.I.R.E.) project, which aims to quantify the impacts that operations from the Suncor refinery are having on the community of Commerce City and surrounding neighborhoods. This grant supports community-based air quality monitoring and outreach and educational activities focused on air quality. This grant provided the funding for the implementation of the program and one full year of data collection.

Besides Cultivando, Boulder AIR has been contracted for air monitoring services by Boulder County, the City of Longmont, the City and County of Broomfield, and the Town of Erie. Apart from Cultivando, these contracts have all been annual contracts. Thus far, they all have been renewed/extended for continuation by these regional governments, indicative of that the sponsor's and communities' expectations have been satisfied or exceeded.

B. Reporting Requirement

For the grants listed above, all reporting requirements and goals were met each year. We submitted mid-year and year-end reports to all funders that stated the impact of our programs. The success of our organization in meeting or exceeding all grant requirements has enabled us to secure additional multi-year grants from most of our funders.

C. Staff Expertise

Our, Executive Director, Olga Gonzalez, was born in Monterrey Nuevo León, Mexico and grew up in Los Angeles, California. She is a long-time diversity, equity and inclusion consultant/coach, a community activist and organizer, and has 28 years of experience as a nonprofit professional. She has been Cultivando's Executive Director for the past three years. Previously, she served as the board Vice President for two years. Under Olga's leadership, Cultivando's budget grew from $500,000 annually to over $3,000,000. Olga earned a dual bachelor's degree in Psychology and Chicano Studies from Scripps College and a master's degree in Nonprofit Management from Regis University as a Colorado Trust Fellow. She has also earned several awards for her work in the areas of health equity and social justice, including the Award for Excellence in the Promotion of Health Equity from the Public Health in the Rockies Conference and the Spirit of Leadership (SOL) Award from the Latino Community Foundation of Colorado. She is an alum of Leadership Denver, the Executive Director of Color program at the Denver Foundation, and of the Transformative Leadership for Change fellowship.

Our Associate Director, Rocio Franco joined Cultivando's leadership team in 2016 as Director of Strategic Partnerships, bringing her years of experience working for Mapleton Public Schools and managing her family's business. She led many of Cultivando's outreach efforts which have resulted in more impactful collaborations with various organizations and city governments. In 2018, she was promoted to Associate

Director in recognition of her leadership skills and of her passion and dedication to the Promotora model and philosophy of "Corazón de servicio" (heart of service). Rocio believes in community strength and leadership and brings calm and thoughtfulness to Cultivando's team. She is also a strong advocate for supporting emotional health, both within the Cultivando team, and among our community members.

The Director of Environmental Justice Programs, Aracely Navarro, holds a bachelor's degree in Environmental Science from Colorado College, and a master's degree of Public Health, in Environmental Health from Emory University. She is a Chicana, who was raised in Colorado and knows a great deal about the Environmental Justice issues present in the community. She has experience within the non-profit sector as well as governmental agencies such as NASA and the CDC. Aracely has been Directing our community-based air quality monitoring program and has successfully implemented multiple community events including educational workshops and seminars. She has created relationships with leaders in the community, such as governmental organizations and other non-profits. Her role has been instrumental in the development and will be instrumental in the continuation of the project.

Biographical sketches of key personnel of Boulder AIR are provided within the Attachments section.

## *Section 7 – Budget*

A. Budget Detail

The Cultivando Project Director will be dedicating 50% of her time to the coordination of this project. She will be responsible for coordinating with scientists from Boulder AIR to ensure project progress. She will handle tasks such as disbursement of expenditures and community activities. Fringe benefits include a monthly stipend to cover health insurance costs.

The grant will fund one full year of data collection. The majority will go to our subcontractor Boulder AIR who will conduct the air monitoring. Their part will cover expenses for the continuation of the Stationary Air Monitor as well as the deployment and deployment of the Mobile Van. A cost breakdown can be found in the Budget Table below.

There are no costs in the budget associated with the community facing activities. Cultivando will (and has) been seeking outside funding to cover costs for these activities.

**Table 3. Budget**

| Line Item and Itemized Cost | Funding Request |
|---|---|
| **Personnel** | |
| Cultivando Project Director- $25/hr x 20 hrs/wk x 60 wks | $30,000 |
| **Total Personnel** | $30,000 |
| **Fringe Benefits** | |
| $4,764-includes monthly medical insurance stipend | |
| **Total Fringe Benefits** | $4,764 |
| **Contractual** | |
| Monitoring Services from Boulder AIR | |
| *One Year of Stationary Monitoring; Variables, Instrumentation, and Costs:* | |

| | |
|---|---|
| 1. Ozone, TEI49 | $12,623 |
| 2. Nitrogen oxides (NO, $NO_2$) Teledyne_T200UP | $31,558 |
| 3. Methane, Picarro G2401 | $31,558 |
| 4. Volatile Organic Compounds, two channel GC-FID/MS | $157,788 |
| 5. Particulate matter; PM 10, PM 2.5, GRIMM EDM180 | $26,508 |
| 6. $CO_2$ PICARRO G2301 | $31,558 |
| 7. Hydrogen sulfide and sulfur dioxide, Teledyne T101 | $23,668 |
| 8. Carbon monoxide, Picarro G2401 | $31,558 |
| 9. Radioactivity, AlphaGUARD and AlphaGUARD PM | $18,000 |
| 10. Meteorological variables | $4,418 |
| 11. Website maintenance, data management | $30,000 |
| 12. Power and communication | $6,000 |
| *Mobile Platform:* | |
| Mobile Van profiling of meteorology, methane, ethane, hydrogen sulfide, nitrogen oxides, particulate matter, $500/hr; 120 hrs | $60,0000 |
| **Contractual Total** | $465,236 |
| **Total Funding** | $500,000 |
| **Total Project Cost** | $500,000 |

B. Reasonableness of Costs

The budget will primarily cover the expenses of the Cultivando subcontractor Boulder AIR to conduct the air monitoring. The cost proposal by Boulder AIR is based on a per compounds and per sample analysis rate that matches the charges in ongoing programs in the neighboring communities. The budget also includes line items for web portal maintenance, and power and communication. The cost listed for the monitoring of each pollutant relates to our project narrative and outcomes. Operational costs, such as required insurances, registration fees, staff salary, mileage, consumables, gases, server fees, instrument repairs, calibration standards, software, system administrator costs, accounting, indirect costs, etc. are absorbed in the monitoring charges. This also applies to reporting, presentations, and staff time for the preparation of one publication. All these expenses are also factored into the pollutant species monitoring charges that are listed in the table.

C. Expenditure of Awarded Funds

Funds will be disbursed to Boulder AIR in two payments. 50% will be disbursed at the onset of the program, with the remaining being distributed at the mid-way point of the program. Expenditure will be tracked using invoices and online accounting to ensure grant funds will be spent in a prompt and efficient manner. Contracts will be signed by both parties to ensure clarity and transparency in this partnership.

# BIOGRAPHICAL SKETCH Detlev Helmig

## EDUCATION

| INSTITUTION AND LOCATION | DEGREE | YEAR | FIELD OF STUDY |
|---|---|---|---|
| University of Duisburg, Germany | Ph.D. | 1989 | Environmental Chemistry |
| University of Bochum, Germany | Diplom | 1986 | Analytical Chemistry |

## PERSONAL STATEMENT

The emphasis of my atmospheric science career has been on surface-atmosphere gas exchange, atmospheric chemistry, and atmospheric transport. A particular area that I have focused on in recent years is local to regional air quality in relation to oil and gas operations. Since spring 2017, we have been monitoring important air quality indicators at the Boulder Reservoir. This monitoring reflects a series of novel instrumental and data processing advancements that facilitate the near-real time reporting of primary air pollutants at a public website (https://www.bouldair.com/boulder.html). A particular goal is to assess the influence of oil and natural gas development on air quality, and track possible changes from the expansion of the industry closer into Boulder County. The high recognition of this program has motivated neighboring communities to seek similar measurements, leading to the addition of five further air quality monitoring stations. Results have been remarkable, showing surprisingly high concentrations of primary air pollutants, and concerning influences from oil and gas emissions on surface ozone. This is of high significance given that the region has been an EPA-designated non-attainment area for surface ozone. Our findings have received a lot of attention by citizens, environmental groups, and regulators. The public websites that report the monitoring datas have been visited some 35,000 times. We have received a plethora of requests for the data and their interpretation. Results have been published in the peer-review literature, and the program has been presented in public media more than a dozen of times. Findings have been essential pieces of information in recent Colorado legislature sessions on redefining oil and gas regulations.

## POSITIONS AND HONORS:

Principal, Boulder A.I.R. LLC, 2018-current.
Associate Research Professor, INSTAAR, University of Colorado Boulder, 2003-2020.
Research Scientist III & fellow, INSTAAR, 2001-2020.
Research Scientist, Chemistry Department and the Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado, 1995-2001.
Visiting Scientist, National Center for Atmospheric Research, 1992-1996.
Postdoctoral Fellow, Statewide Air Pollution Research Center, Riverside, University of CA, 1989-1992.
US EPA Young Investigator Award, 1996-2001.

## CONTRIBUTIONS TO SCIENCE

Invited member of IPCC group for assessing short-lived climate forcers, 2018-2022.

Editor-in-Chief of the Atmospheric Science Domain, *Elementa* – Science of the Anthropocene (http://elementascience.org/), 2013-current.

Invited member of the World Meteorological Organization (WMO) Global Atmospheric Watch (GAW) scientific advisory group (SAG) on atmospheric reactive gases and WMO-GAW Expert Group for the global monitoring of Volatile Organic Compounds, 2008-current.

Volunteer lecturer at the WMO-GAW – Training & Education Center (2011, 2015, 2018; https://www.gawtec.de), and the School of Atmospheric Measurements in Latin America and the Caribbean (SAMLAC) (2018; http://samlac.uprrp.edu/).

Primary thesis mentor of ten Ph.D. and ten masters' students, and five postdoctoral scientists at the University of Colorado. Student mentor in the CU Boulder Work Study Program, the CU Boulder SMART Program (Summer Multicultural Access to Research and Training), CU Boulder UROP Program (Undergraduate Research Opportunities Program), the NSF Biosphere Atmosphere Research Training (BART), and UCAR SOARS (Significant Opportunities in Atmospheric Research and Science).

## SELECTED PUBLICATIONS:

210 Peer-reviewed publications total; H-index 50. Please see https://bouldair.com/ for complete listing. Selected examples:


Rossabi S., Hueber J., Wang W., Milmoe P., and Helmig D. (2021) Spatial distribution of atmospheric oil and natural gas volatile organic compounds in the Northern Colorado Front Range. Elem. Sci. Anthro. 9, DOI: 10.1525/elementa.2019.00036.

Pozzer A., Schultz M.G., and Helmig D. (2020) Impact of oil and natural gas emission increases on surface ozone is most pronounced in the Central United States. Environ. Sci. Technol. https://dx.doi.org/10.1021/acs.est.9b06983.

Oltmans S.J., Cheadle L.C, Helmig D., Angot H., Petron G., Montzka S.A., Dlugokencky E.J., Miller B., Hall B., Schnell R.C., Kofler J., Wolter S., Crotwell M., Siso C., Tans P. and Andrews A. (2021) Atmospheric oil and natural gas hydrocarbon trends in the Northern Colorado Front Range are notably smaller than inventory emissions reductions. Elem. Sci. Anthro. 9, DOI: 10.1525/elementa.2020.00136.

Helmig D. (2020) Air quality impacts from oil and natural gas development in Colorado. Elem. Sci. Anth. 8, DOI: https://doi.org/10.1525/elementa.398.

Oltmans S.J., Cheadle L.C., Johnson B.J., Schnell R.C., Sterling C., Thompson A.M., Helmig D., Cullis P., Hall E., Jordan A., McClure-Begley A., Sullivan J.T., McGee T.P., and Wolfe D. (2019) Boundary layer ozone in the Northern Colorado Front Range in July-August 2014 during FRAPPE and DISCOVER-AQ from vertical profile measurements. Elem. Sci. Anth. 7, 1-14.

Bien T. and Helmig D. (2018) Changes in the summertime ozone chemistry in Colorado during 2000 – 2015. Elem. Sci. Anth. 6:000300, 1-25, doi: 10.1525/elementa.300.

Rossabi S., and Helmig D. (2018) Changes in atmospheric butanes and pentanes and their isomeric ratios in the Continental United States, J. Geophys. Res. 123, 3772-3790, doi:10.1002/2017JD027709.

Evans J.M., and Helmig D. (2017) Investigation of the influence of transport from oil and natural gas regions on elevated ozone levels in the northern Colorado Front Range. J. Air Waste Manag. Assoc. 67, 196-211.

Helmig D., Stephens C.R., Evans J., Boylan P., Hueber J., and Park J.-H. (2014) Highly elevated atmospheric levels of volatile organic compounds in the Uintah Basin, Utah. Environ. Sci. Technol. 48, 4707-4715, doi:10.1021/es405046r.

Helmig D., Rossabi S., Hueber J., Tans P., Montzka S.A., Masarie K., Thoning K., Plass-Duelmer C., Claude A., Carpenter L.J., Lewis A.C., Punjabi S., Reimann S., Vollmer M.K., Steinbrecher R., Hannigan J.W., Emmons L.K., Mahieu E., Franco B., Smale D., and Pozzer A. (2016) Reversal of global atmospheric ethane and propane trends largely due to US oil and natural gas production. Nature Geosci. 9, 490-495.

# Aracely Navarro

**Ex. 6 Personal Privacy (PP)**

## Education

**MASTER OF PUBLIC HEALTH | ROLLINS SCHOOL OF PUBLIC HEALTH | EMORY UNIVERSITY**

- Major: Global Environmental Health, GPA: 3.8
- Certificate: Social Determinants of Health
- Graduated May 2020

**BACHELORS OF ARTS | COLORADO COLLEGE**

- Major: Environmental Science-Integrated
- Minor: Southwest Studies/Sociology
- Graduated May 2018

## Experience

**DIRECTOR OF ENVIRONMENTAL JUSTICE PROGRAMS | CULTIVANDO| COMMERCE CITY, CO | 05/2021-PRESENT**

- Direct, coordinate and plan activities related to the Air Quality Investigation for Research and Equity(AIRE) project
- Communicate and coordinate with multiple contractors and partners for the project including scientist, government entities and community members
- Lead the high school internship program and plan activities for the students to participate in and lead education workshops
- Partner with local environmental grassroots organizations and sit on relevant boards to aid in environmental justice decision making

**EVALUATION SPECIALIST | THE EVALUATION CENTER| DENVER, CO | 04/2020-04/2021**

- Assist in the evaluation of Public Health programs and interventions
- Assist in the writing of data briefs, newsletters and hot topic briefs
- Utilize qualitative and quantitative methods of data collection
- Coordinate workgroup meetings and communications

**FARM INTERN | MENTAL HEALTH CENTER OF DENVER| DENVER, CO| 05/2020-10/2020**

- Participate in the management and upkeep of the farm, including seeding, weeding, and harvesting
- Organize and distribute produce for pick up by the local community
- Manage volunteers through scheduling and coordination

**SERVICE MEMBER | AMERICORP-SAMUEL L. JONES BOYS AND GIRLS CLUB |DECATUR, GA |09/2019- 05/2020**

- Create educational lessons and materials for students focused on STEM
- Manage community garden and lesson plan for garden days
- Aid students in their homework assignments and act as a mentor for the students

**GRADUATE RESEARCH ASSISTANT | HERCULES EXPOSOME RESEARCH CENTER | ATLANTA, GA |09/2019-05/2020**

- Coordinate community outreach activities such as communication and set up for community meetings and focus groups
- Conduct surveys using NVivo, to collect relevant health information data in environmental justice areas burdened by poor air quality

- Create info-graphics for the community on toxicants of concern and what they can use as alternatives

**INTERN | ALASKA COMMUNITY ACTION ON TOXICS | ANCHORAGE, AK |06/2019-08/2019**

- Collected air quality data from Purple Air monitors around the state
- Analyzed air quality data and created an impact report/assessment using SAS and GIS
- Created and presented educational materials for the community regarding poor air quality and potential health impacts
- Organize and interact with community members regarding environmental health issues

**STUDENT RESEARCHER | THE NATIONAL AERONAUTICAL SPACE ADMINISTRATION | PALMDALE, CA |06/2017-08/2017**

- Conducted air pollution research of the Los Angeles Basin using data collected with the Geostationary Trace gas and Aerosol Sensor Optimization (GeoTASO) satellite instrument
- Quantified Nitrogen Dioxide ($NO_2$) distribution based on low-income communities and communities of color in the Los Angeles Basin using GeoTASO data, this high-resolution data showed communities of color and lower income communities had a larger distribution of $NO_2$

**INTERN | THE CENTER FOR DISEASE CONTROL AND PREVENTION(CDC) | ATLANTA, GA | 06/2016 - 08/ 2016**

- Assisted the Division of Community Health Investigation on their "Don't Mess with Mercury" campaign
- Conducted database research and compiled data on the number of elemental mercury exposures to children in the years 2013-2016 in the United States to assess the efficacy of the campaign
- Performed other tasks such as translating informational materials, updating website information and creating info-graphics

## Skills & Abilities

**LEADERSHIP/VOLUNTEER/CERTIFICATIONS**

**CPR/First Aid Certified**

- Obtained certification January 11, 2020

**Co-President of Rollins Environmental Action Coalition (REHAC)**

- Coordinate meetings, create events, and teach the community about environmental health issues around the Atlanta area and around the world

**Lutheran Family Church Services**

- Tutored middle school age students for a year on subjects ranging from health, science and mathematics
- Aided refugee students in transitioning from foreign countries into the U.S.

**ACCOMPLISHMENTS**

**The Rochelle T. Mason Award for an Outstanding Event Contributing to the Empowerment of Communities of Color**

- Received this award for the event "Women of Color Week," where the empowerment and promotion of the mental health of women of color on campus was the focus

**Gates Millennium Scholar**

- This is a full-ride scholarship that funds undergraduate and graduate studies. This scholarship is only awarded to 1,000 students nationwide out of 52,000 applicants based on merit and service

# Rocio Franco

Associate Director

Ex. 6 Personal Privacy (PP)


## EDUCATION

**THORNTON HIGH SCHOOL**
*Thornton, CO*
*High School Diploma (May 2002)*

**FRONT RANGE COMMUNITY COLLEGE**
*Westminster, CO*

*Relevant Coursework*

- Basic Studies

## CERTIFICATIONS

Promotora Training 2017

Health Equity Learning Series 2019

## CAREER OBJECTIVE

Efficient professional with 19.5+ years of experience and a proven knowledge of community outreach. Aiming to leverage my skills to successfully fill the Associate Director role.

## EXPERIENCE

### ASSOCIATE DIRECTOR

*Cultivando, Commerce City, CO / Oct 2018 - Present*

Responsible to actively build, strengthen, and formalize relationships with a variety of stakeholders, including community members, public and private sector service providers; local and state government leaders; corporations; charitable foundations; and community organizations, helping them understand the Promotora Model, community-driven advocacy, and increasing access to support health equity.

### DIRECTOR OF STRATEGIC COMMUNITY PARTNERSHIPS

*Cultivando, Commerce City, CO / Mar 2017 - Sep 2018*

- Worked collaboratively with staff to identify new potential foundation, individual, private, corporate, school, and other organization partners.
- Worked with the Cultivando staff to develop and execute an annual development strategy for foundation grants and contracts.
- Submited proposals to engage potential partners on behalf of Cultivando in a timely and consistent manner. This includes developing concepts, gathering, and formatting information and preparing clear communications.

### PARENT LIAISON

*Mapleton Public Schools, Denver, CO / Aug 2016 - Mar 2017*

- Promoted family welfare efforts by establishing contacts with parent/families of the school.
- Provided timely and relevant information to parents/guardians concerning school and district activities, operations, procedures to improve home/school communication.
- Researched collected, organized and coordinated resource materials and activities to facilitate parental involvement and engagement in their child's education, under the direction of the campus principal and District.

### SCHOOL SECRETARY

*Mapleton Public Schools, Denver, CO / Aug 2012 - Jul 2016*

- Answered phone calls and providing the needed information to the caller, transferring calls to the related department, mailing progress report and school brochures, providing students with tardy slips; attending office meetings, and distributing pay checks to school staffs.
- Greeted parents and visitors, managing incoming calls, Fax, Scan or Print any document, filing, organizing, and ordering office supplies.
- Assisted in the nurse's office with students needs and medication administration.

### SPECIAL EDUCATION PARAPROFESSIONAL

*Mapleton Public Schools, Denver, CO / Jul 2010 - Jul 2012*

- Assisted teachers with lesson plans, maintaining classroom and supervising students.

- Helped students with understanding and reinforcing skills and materials in their native language.
- Supported parents by interpreting at school functions and/or by providing student progress information.
- Attended appropriate in-services, building meetings, training, and/or school functions and performing other duties as assigned.

### OPERATIONS SPECIALIST

*Options Home Care, Denver, CO / Jun 2009 - Jul 2010*

- Assisted an Albuquerque, NM office with administrative and operational needs to support compliance.
- To schedule meetings and providing agendas.
- Made calls and updating the daily calendar for office work priorities.
- Evaluated documentation for accuracy and completeness, and notifying branch office with any discrepancy.

### LOAN PROCESSING / AUTOMOBILE FINANCE AGENT

*Solis Auto Brokers, LLC, Grand Junction, CO / Feb 2007 - May 2009*

- Responsible for reviewing loan packages to ensure all aspects of the underwriting process has been properly completed and that it adheres to company policies and procedures.
- Reviewed the information on the loan application, contract, and other documents to determine if the loan applicant meets the loan requirements before funded.
- Processed car titles to all different counties with different needs
- Experience in financing with Banks, Non-credit Finance Companies, and In-house Financing.

### SENIOR MORTGAGE LOAN PROCESSOR/LOAN OFFICER

*Best Decision Mortgage Company, Denver, CO / Oct 2006 - Jan 2007*

- Qualified on customer based on income, liabilities, and assets.
- Worked directly with lenders to meet requirements prior to approvals
- Processed any type of loan as FHA, Sub-Prime, A paper, VA in refinances or purchases.
- Extensive knowledge and experience with any type of programs as Option ARM, Fixed Rate, Interest Only and HELOC loans.
- Directed communication with Title Companies, appraisers, Bank Payoffs, Inspections Companies and Credit Report Companies.

### MORTGAGE LOAN PROCESSOR/ EXECUTIVE ASSISTANT

*Morningstar Mortgage Company, Denver, CO / May 2002 - Sep 2006*

- Conducted Loan Processing from start to closing arrangements closing approx. 30 loans a month
- Translated in closing transactions.
- Office duties such a filing, organizing, and ordering supplies.
- Maintained communication with Banks, Title Companies and Clients.

## REFERENCES

**References available upon request**

# OLGA V. GONZÁLEZ

Ex. 6 Personal Privacy (PP)

## PROFESSIONAL SUMMARY

Community-focused leader with over 27 years of effective experience serving the people of Colorado. Highly skilled in training and facilitation, curriculum and program development, community healing, liberatory and equity-informed work. A strong background in leadership development, social justice and cross-system collaboration.

## SKILLS

- Effective, visionary leader
- Evidence-based and community-informed approach
- Exceptional interpersonal communication
- Experienced community organizer
- Highly resourceful and creative thinker
- Effective experience working in and with diverse communities

## WORK HISTORY

**Executive Director** **Cultivando** **1/22/19 - Present**

- Responsible for overseeing the administration, programs and strategic goals of the organization.
- Fundraising, marketing, program development, and community outreach.

**Racial Equity Consultant** **O.G. Consulting Services** **2010-Present**

- Inclusion and equity training, consultation and coaching to various nonprofit and organizations around the state and nationally
- Provide technical assistance with operationalizing equitable policies, practices, programs, and organizational structures

**Director of Equity and Inclusion** **LiveWell Colorado** **11/15-3/18**

- Worked directly with the Board of Directors and the CEO to advance both internal and external commitments to health equity, including staff development, board development, strategic planning, fundraising, and partnership cultivation.
- Led the strategic and operational aspects of LiveWell Colorado's partnership with communities throughout the state of Colorado.

**Consultant/Trainer** **State of Colorado, Division of Human Resources** **2014-2016**

- Created and delivered core leadership trainings for State of Colorado managers and supervisors.

**Consultant/Facilitator** **Denver Indian Family Resource Center** **02/12-02/15**

- Facilitated culturally-specific parenting curricula for vulnerable American Indian families.
- Assisted with grant writing and reporting.
- Participated in monthly clinical staff meetings.

**Consultant/Program Coordinator** **Focus Points Family Resource Center** **2/10-11/15**

- Author, trainer and facilitator of the family planning/family strengthening curriculum, *Familias Extraordinarias*
- Successfully administered pre and post evaluations to over 300 people. Reported findings to major local and national funders and stakeholders.
- Created the *Familias Activas* (Active Families) 12 week fitness and nutrition program to promote healthy and active lifestyles among underserved, low-income families. Served over 150 families from throughout the Metro Denver area.

**Grant Reviewer/Consultant** **National Court Appointed Special Advocates** **5/00-1/16**

- Review annual grants from CASA organizations across the country and make funding recommendations.
- Provided guidance during the formation of cultural inclusiveness policies and guidelines of grant applications.

**Home Based Coordinator** **Clayton Early Learning** **2/07 – 5/10**

- Provided oversight and management of the HIPPY (Home instruction for Parents of Preschool Youngsters) and Early Head Start Home Based programs which served over 100 families/year.
- Chaired the Cultural Inclusiveness Work Group and ensured that our policies, procedures and programs reflected the needs and diversity of our staff, children and families.

**Director of Hotline Services** **The Denver Center for Crime Victims** **2/06 – 1/07**

- Supervised a team of 20 hotline counselors, interns and volunteers to ensure effective support and services to clients.
- Prepared monthly statistical reports and quality assurance reviews.
- Provided therapeutic counseling to over 40 victims of crime as an unlicensed psychotherapist.

**Development and Community Relations Director** **Cleo Parker Robinson Dance** **11/04-4/06**

- Developed relationships with major individual, corporate and foundation donors to secure funding for the organization.
- Directed major annual fund-raising events as well as ongoing fund-raising campaigns. Successfully raised over $350,000.
- Led local and national outreach and marketing efforts.
- Developed and implemented a multicultural arts leadership program and social justice curriculum for inner-city youth.

**Family Service Worker** **Catholic Charities-Early Learning Center** **11/03-11/04**

- Provided culturally and linguistically relevant support, services and referrals to enrolled families.
- Planned and facilitated monthly bilingual parent meetings.
- Attended community meetings to keep abreast of current needs and services for families in the Metro Denver area.

**Bright Beginnings/Warm Welcome Coordinator** **Mile High United Way** **1/98-1/00**

- Recruited, trained and supervised over 200 volunteers from throughout the Metro Denver area.
- Directed delivery of welcome gifts, resources and health and developmental information to over 500 families with newborn babies.
- Created and led a multicultural cross-agency committee to streamline services to families.

**Hotline Director** **Colorado AIDS Project** **8/96-12/97**

- Recruited, trained and supervised over 50 volunteers for the CAP hotline.
- Led efforts to build organizational cultural competence and effectiveness to reach underserved communities.

**Parenting/Healthy Relationships Facilitator** **Various locations** **1/96 – 1/15**

- "Strengthening Latino Families" curriculum– LARASA (Latin American Research and Service Agency)
- "Within My Reach", "Caring for My Family" and "Within My Reach" curricula– Peer Assistance Services, Inc.
- "Love and Logic" parenting model

**Program Specialist for the "FENIX" Project** **Mi Casa Resource Center for Women** **5/94-8/96**

- Responsible for the recruitment, training and supervision of safer sex and teen pregnancy prevention peer educators from various Denver High Schools.
- Developed cross-system collaborations to support STI and teen pregnancy prevention efforts across the city.

## EDUCATION

**Master of Nonprofit Management (MNM):** May 2002
**Regis University** - Denver, CO

**B.A. Psychology/Chicano Studies:** May 1994
**Scripps College** – Claremont, CA

## LEADERSHIP/HONORS

- *Livingston Fellow, 2022*
- *Soul of Leadership Award (SOL), Latino Community Foundation of Colorado, October 2021*
- *Executive Directors of Color, Denver Foundation, 2019-2021*
- *Transformative Leadership for Change Fellow 2019*
- *Award for Excellence in the Promotion of Health Equity from the Public Health in the Rockies Conference 2017*
- *Leadership Denver Class of 2016-2017*
- *Colorado Trust Fellow (1998)*
- *Visiones Multicultural Leadership Institute (1997)*

- *Panche Be Award (2002)*
- *Mayor's Award for "Outstanding Denver Citizen Committed to Fighting Against Hate" (1998)*
- *Chicana of the Year Award (1994)-Scripps College, Claremont, CA*
- *S.M.A.R.T. Graduate-CU Boulder (1993)*

Manifest for Grant Application # GRANT13580292

Grant Application XML file (total 1):

1. GrantApplication.xml. (size 35143 bytes)

Forms Included in Zip File(total 6):

1. Form ProjectNarrativeAttachments_1_2-V1.2.pdf (size 16030 bytes)

2. Form SF424_3_0-V3.0.pdf (size 24196 bytes)

3. Form SF424A-V1.0.pdf (size 22949 bytes)

4. Form EPA4700_4_3_0-V3.0.pdf (size 22603 bytes)

5. Form OtherNarrativeAttachments_1_2-V1.2.pdf (size 15907 bytes)

6. Form EPA_KeyContacts_2_0-V2.0.pdf (size 37248 bytes)

Attachments Included in Zip File (total 23):

1. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1256-Cultivando Letter of Support_Center for Health Progress 2022.pdf application/pdf (size 76799 bytes)

2. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1237-Community-Based Organization Set-Aside (1).pdf application/pdf (size 241021 bytes)

3. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1238-Proof of Non-Profit Status.pdf application/pdf (size 586548 bytes)

4. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1254-RWD_biosketch_03_21_22.docx application/vnd.openxmlformats-officedocument.wordprocessingml.document (size 22661 bytes)

5. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1255-GG_biosketch_03_24_2022.docx application/vnd.openxmlformats-officedocument.wordprocessingml.document (size 17254 bytes)

6. ProjectNarrativeAttachments_1_2 ProjectNarrativeAttachments_1_2-Attachments-1235-FINAL_Cultivando_Narrative_03_25_22.pdf application/pdf (size 1961849 bytes)

7. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1252-KP_biosketch_03_23_2022.docx application/vnd.openxmlformats-officedocument.wordprocessingml.document (size 16590 bytes)

8. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1253-LD_biosketch_03_24_2022.docx application/vnd.openxmlformats-officedocument.wordprocessingml.document (size 19905 bytes)

9. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1236-Quality Assurance Statement.pdf application/pdf (size 162576 bytes)

10. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1249-Hickenlooper LOS.pdf application/pdf (size 51198 bytes)

11. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1251-JH_biosketch_03_24_2022.docx application/vnd.openxmlformats-officedocument.wordprocessingml.document (size 23850 bytes)

12. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1247-BPUF Cultivando's Air Quality Partnership Letter.pdf application/pdf (size 89540 bytes)

13. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1248-Degette_LOS for EPA Enhanced Air Quality Monitoring for Communities grant.pdf application/pdf (size 31699 bytes)

14. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1250-GWD_Cultivando LOS 02.17.22.pdf application/pdf (size 270962 bytes)

15. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1241-Navarro_Resume_2021.docx.pdf application/pdf (size 55959 bytes)

16. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1242-Helmig Resume.pdf application/pdf (size 196189 bytes)

17. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1239-Olga_V_Gonzalez_Resume.2022.pdf application/pdf (size 219939 bytes)

18. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1240-Rocio Franco Resume 2021 .pdf application/pdf (size 73327 bytes)

19. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1245-Green House Cultivando EPA Rec Letter.pdf application/pdf (size 157658 bytes)

20. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1246-League of Women Voters.pdf application/pdf (size 366014 bytes)

21. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1243-CDPHE partner letter for Cultivando 20220321_SignedMO.pdf application/pdf (size 104613 bytes)

22. SF424_3_0 SF424_3_0-1234-AREAS AFFECTED BY PROJECT.pdf application/pdf (size 27942 bytes)

23. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1244-Moms Clean Air Force Letter Supporting Cultivando AIRE Grant Proposal 2.pdf application/pdf (size 33506 bytes)

# CULTIVANDO

# EPA-OAR-OAQPS-22-01 APPLICATION

## AREAS AFFECTED BY PROJECT:

**Areas Affected by Project (Cities, Counties, States, etc.)**

**Cities:** Commerce City, Globeville, Elyria-Swansea,

**Counties:** Denver and Adams

**State:** Colorado